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YALE MEDICINE

Alumni Bulletin of the School of Medicine

Fall 1985



closing in on cancer

YALE MEDICINE: *Alumni Bulletin of the School of Medicine: Fall 1985; Vol. 20, No.1*

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YALE MEDICINE is distributed to members of the Association of Yale Alumni in Medicine, students, and others interested in the School of Medicine. Communications may be addressed to the Editor, 333 Cedar Street, New Haven, Connecticut 06510.

COVER: Dr. James D. Jamieson, professor and chairman of Cell Biology, is one of a number of scientists at Yale doing significant research in the prevention and effective treatment of cancer. (see article beginning on page 5).

PHOTO by William Carter

Commencement address to the Class of 1985

RESPONSIBILITY

by Howard Levitin, M.D.

A short while ago, amid the pomp and ceremony of a marvelous tradition, President Giamatti on behalf of Yale University, conferred on you the degree of Doctor of Medicine and said, "I admit you with all its rights and responsibilities."

I would like to spend the next few minutes sharing with you my thoughts on the need to maintain a proper balance between the rights and responsibilities of the medical profession. It is easy to accept the rights and privileges of your profession, and rightly so, for you have worked hard, demonstrated your competence and commitment and deserve to enjoy the reward of your effort.

But, it is equally important to keep ever-present in your mind that the responsibilities of your profession are a crucial part of your life and career. I will dwell more on the need to meet these responsibilities, not to put things out of balance, but because it is important to constantly remind ourselves of our obligations.

There are four components of our responsibilities as members of the medical profession:

1. responsibility to ourselves
2. responsibility to our patients
3. responsibility to our profession
4. responsibility to society

RESPONSIBILITY TO OURSELVES

You owe it to yourself to enjoy the fruits of your labor, to take pride in your profession and to enjoy a very good standard of living. It is equally important that you have time for your personal and family life. While being dedicated to your work, you should not feel that medicine is an impediment to a good life. Rather, it should be complementary to a full and complete realization of your goals in life.

At the present time, much criticism is being leveled against the medical profession, to such a degree that I begin to sense a feeling of guilt among my colleagues and young physicians like yourself. For whatever reason society has been motivated to diminish its long standing respect, if not reverence for the profession, we have nothing to be ashamed of. Modern medicine, through both basic research and health care delivery, is doing remarkable things, and the future bodes well for further rapid advances in our understanding of biologic function and the technology required to apply this knowledge to the good of our patients. You are well prepared to take your place in the profession and to participate in the continuing battle against disease and human suffering. You have a responsibility to continue your education and to keep pace with the progress medicine will make during your professional career.

Balance is the key. Neither be obsessed with the need to be 100 percent committed to your work with the inevitable toll it will take on your personal and family life, nor allow the prestige and remunerative aspects of the profession to become an overriding influence.

Enjoy the rewards and respond with a lifetime commitment to be a superb physician.

RESPONSIBILITY TO YOUR PATIENTS

I doubt that we could generate an argument about the fact that a good physician should be well informed, technically competent and genuinely concerned for the welfare of his/her patients. But above and beyond this given, is the question of the role the patient should and can play in matters concerning their own health care and the manner in which they approach death. I encourage you to consider the doctor/patient relationship, not as a high priest dealing with a supplicant flock, but rather as a partnership, with physician and patient working together towards the common goal of good health. In this partnership, each makes an important contribution in the prevention, management and cure of disease and when, as is inevitable, dying and death have to be reckoned with, the wishes of the patient become an integral part of medical management.

I am unimpressed with the argument that patients do not want, or are ill-prepared for this degree of involvement in their care. Nor is the argument that meaningful and informed decisions require an extensive medical background. The contribution that the patient can make is not a substitute for, or competitive with the medical expertise of the physician, but rather, a crucial supplement. Nor is involvement in their own care an additional and undesirable emotional burden. I submit that the anxiety associated with *not* knowing and *not* being involved is even greater. Don't let false pride prevent you from saying, "I don't know," and from sharing the truth, and planning treatment with your patients.

All too often, this subject is placed in the context of a crisis situation with immediate life or death decisions, as exemplified by the Karen Quinlan case or other "should we pull the plug?" situations. While these are important dilemmas, I would like to focus more on the role the patient should play in the day-to-day prevention and management of routine medical problems, and will take a minute to tell you of a personal experience that might help explain my position.

I broke my ankle many years ago. In the emergency room, I was given strong sedation in anticipation of anesthesia for a closed reduction of a bad fracture. The orthopedic surgeon arrived accompanied by a resident. During the examination, he explained to the resident that they could elect to put on a short leg cast or a long leg cast. He decided on a short leg cast because, he explained, I would want to get back to work as soon as possible, and that I would be more mobile in a wheel chair and on crutches in a short leg cast.

I recall marshalling all of my clouded senses and asking, "Which will get me on the tennis court with the best chance of full function?"

He responded, "The long leg cast, but it will be more of a nuisance and uncomfortable."

As I drifted off into drug-induced oblivion, I muttered, "Put on the long leg cast."

With the very best of intentions, the surgeon erroneously thought that getting back to work would be my highest priority. I am happy to report that yesterday, I played tennis with a group of medical students and in no way embarrassed myself. My ankle is in perfect shape and I am forever grateful to that surgeon, and especially to the resident.

The medical options in my case were entirely left to the physician. But, because two options existed, and the consequences of each carried different implications for life style, my contribution was terribly important to me. It was based on my needs, which could not have been fully appreciated by anyone else.

There are many advantages to this partnership approach. The well informed, involved patient is more likely to comply with a jointly arrived at therapeutic regimen. There is much evidence in the literature to support this conclusion.

The well informed and involved patient is more likely to have a realistic appraisal of the likely outcome of a particular therapeutic or surgical intervention. Anger, frustration and disappointment will be minimized when the patient has been an informed contributor to his/her own care. I believe that the current malpractice crisis is based more in the anger and disappointment associated with unrealistic goals and a feeling of noninvolvement than in a sudden upsurge in suboptimal medical care. I find it a paradox that in the over 35 years since I graduated from medical school, the profession has acquired the knowledge and skill to do remarkable things, but paralleling this remarkable progress, society's regard for the profession is somewhat less than we would like it to be.

Informed consent, always used in the ad hoc situation for a particular invasive procedure, should be extended to cover the entire scope of medical practice. It begins with the first contact with your patient and continues for the duration of your contact. In this setting, the patient will, in a nonthreatening manner, gradually become accustomed to participation and will certainly be better prepared to discuss difficult decisions when they present in the future. It also sets the stage for the patient to let you know more about the values that will apply when a crisis develops or when decisions that affect life style have to be made. We have accepted the idea of a last will and testament, a declaration of our wishes concerning the disposition of our worldly possessions after we die. Why not have a first will and testament — an opportunity in a non-crisis situation, over a period of time, to address the issue of the control of our most precious commodity — our own life?



Dr. Howard Levitin, at the podium, addressed the 101 members of the medical Class of 1985 at commencement ceremonies held on the Harkness Green on May 24.

RESPONSIBILITY TO THE PROFESSION

Do not, as it is claimed the ostrich does, put your head in the sand and hope that the issues confronting the medical profession will go away. That is the one thing I can assure you will not happen.

Over and over again, I hear about all of the bad things that are happening to medicine — new government rules and regulations, DRG's, change in Medicare reimbursement, impaired physicians, malpractice inequities, and so on. These are important issues that must be addressed.

In an address given many years ago to the Association of American Medical Colleges, Senator Edward M. Kennedy called attention to the rising concern for these same issues and beseeched the medical profession to get involved in proposing solutions or, he indicated, people far less aware of the nature of medical practice and with a vested interest that was not always compatible with that of the medical profession, would promulgate undesirable rules and regulations. Indeed, his wisdom and foresight have unfortunately come to pass. And, unless you get involved and the current state of affairs is not allowed to follow its present course, you might look forward to increasing control and restrictions, leading ultimately to medicine being declared a public utility under the control of a regulatory agency.

Remember that, if and when you emulate the ostrich, the unique anatomical configuration required to get your head in the sand leaves you remarkably vulnerable. You should be concerned with your own continuing education and the education of the generation of physicians that will follow you.

Medical schools are currently being asked to reevaluate the process of medical education. I think it is a good idea

and, in fact, the education process should be under constant scrutiny. However, the call for reassessment flows from the absurd assumption that the problems now facing medicine can in some way be attributed to deficiencies in the method of recruiting and educating physicians. It seems that all of the evils that have befallen us will disappear if we reduce the amount of basic science teaching and include a sprinkling of humanities in the curriculum.

I have trouble accepting the concept that teaching humanities (a wonderful idea for its own sake) will translate into making physicians more humane. Yale medical students and faculty can enjoy a degree of satisfaction from the recommendations of the GPEP report outlining new proposals that closely approximate the curriculum of our school.

Do not be afraid of peer review when intelligently implemented. An effective stimulus to keep up-to-date, is in itself, an educational experience and can do much to restore confidence in the medical profession.

You will not escape the issue of cost containment and the many secondary issues it raises. The availability of good and readily accessible medical care is at risk to become more and more a function of ability to pay. Regulations establishing fixed prices according to disease run the risk of making some patients more desirable than others. National Health Insurance, which may or may not be a good thing, will be a disaster if left exclusively to bureaucratic planning and implementation.

But, most worrisome of all and potentially destructive, is the emergence of large corporate, stock beholden, medical industries. "Medicine for profit" will make cost/effective ratios, market value of stock and profit

margins important considerations, influencing decisions of hospital and health maintenance administrators. Even worse, and in my opinion, unconscionable, is the physician who has an entrepreneurial interest in the health facility where he/she practices. This must lead, at some point, to a conflict of interest when the decision to admit, duration of stay, and the type of procedures undertaken, translate into financial remuneration above and beyond fee-for-service.

Please worry about this important issue. Keep your head above the ground.

RESPONSIBILITY TO SOCIETY

We are a well informed and concerned segment of our society. It is our responsibility to speak out on the broad issues that affect the health of our individual citizens and society at large. It is appropriate to address the issues of prevention and management of health problems. It is not a political statement that smoking is bad for your health, and I endorse the current practice of labeling cigarettes. I also suggest that nuclear weapons and warheads be labeled, "Warning! Undoubtedly hazardous to your health". Similarly, we must become more involved with the reasons behind and control of drug, alcohol and cigarette abuse. The deleterious effect of air pollution, contaminated water supplies, indiscriminate use and disposal of toxic material must command our attention.

But these are the obvious. I call on you to address the more subtle issue of chronic stress, the inevitable consequence of uncertainty, fear, unemployment and failure to achieve one's ambition. We are excessively concerned with being number one, competing in a destructive manner for material acquisitions.

The very fear of survival in the current political climate is a health issue. I do not believe the call for available cyanide pills on college campuses was a well thought out plan that proponents felt should be implemented. It was a statement, "We are scared," and being scared is not good for your health.

Violence has not been given its proper classification as a disease. We should reject violence as entertainment. One should not enjoy viewing or participating in violent actions. Child abuse, spouse abuse, rape and the assumption that violence is a legitimate way to settle difference, are all too prevalent.

Greed is an illness. The behavior of highly paid executives of General Dynamics, General Electric and GE-Hutton are manifestations of disturbed behavior. Let us pledge not to succumb to similar temptations.

Just as a partnership with your patients can be useful, so too a partnership with society lead to more effective management of such unresolved questions as definition of the allocation of limited health resources, care of the

indigent and care of the aged. Again, I would ask you to consider this partnership complimentary — not competitive. We have the knowledge and technical competence, but everyone has a legitimate role to play in the moral and ethical issues we have yet to solve.

In conclusion, let us temporarily put these issues aside for this festive occasion. You deserve the honor and pleasure of successful completion of your studies and entry into the medical profession. Test and enjoy the title "Doctor", now permanently prefixed to your name and share with your family and friends their justifiable pride. I know you will all appreciate, especially your parents, your transition from paying and indebted student to (modest as it may be) wage earner.

However, the issues addressed today evolve, and whatever changes come about, I am confident of one thing — society will always hold good health as a top priority and want excellent medical care. The medical profession will continue to offer dedicated men and women the opportunity to use their intellectual and technical skills in the service of humanity.

You have chosen well, worked hard and achieved your goal. History tells us that in spite of anxiety about your forthcoming adventure as a resident, you will do well.

Congratulations and best wishes!

Dr. Levitin, professor of medicine, was associate dean from 1966 to 1985.



Dr. Sara Rockwell, professor (adjunct) of research in therapeutic radiology, (above) is conducting research on the use of perfluorochemicals — a chemical solution with properties similar to blood plasma — in combination with radiotherapy to improve treatment of solid tumors which are resistant to even the best of current treatment.

This article is excerpted from a forthcoming brochure *People Conquering Cancer* prepared by Marion E. Morra, assistant director, with Paula A. Wilson, staff assistant, of the Yale Comprehensive Cancer Center. Photographs are by William Carter.

CLOSING IN ON CANCER

Established in 1974, the Yale Cancer Center is one of twenty Comprehensive Cancer Centers in the United States designated by the National Cancer Institute to bring together the best in research, diagnosis, treatment and prevention. The Center gives to Connecticut and its surrounding states, strong programs in basic sciences which are translated rapidly into patient care and treatment.

Talented and caring individuals, conducting research at the Yale School of Medicine and the Yale-New Haven Hospital, are the mainstays of our staff and programs. World authorities in the cancer field are here, along with patients from Connecticut as well as from cities and towns around the nation and from many countries overseas. New national figures in the cancer field are created here — with radiation therapists, medical oncologists and laboratory investigators, trained at the Center, having assumed leadership roles in major institutions around the country.

We are in a particularly exciting and hopeful time in the field of cancer research. Discoveries in molecular and cell biology are forging the way to an understanding of the basic mechanism by which normal cells turn into cancerous ones, supplying new leads towards earlier diagnosis and new approaches to therapy which ultimately will lead to a cure for all cancers.

Our scientists are actively pursuing these and many other areas. Looking at oncogenes involved in transforming cells and using this knowledge to find new approaches to treatment. Developing new and unique drugs to use in combinations which will attack specific kinds of cancerous cells. Finding drugs that will have fewer side effects on normal cells. Characterizing new radiation treatments in combination with chemotherapy to more effectively attack cancer. Devising precise surgical procedures for removing tumors. Creating new ways to diagnose cancer earlier. Originating strategies in cancer prevention.

The statistics are also reflecting our new knowledge. Cancer is no longer a death sentence — there are more people living with cancer today than dying from it. And over half of patients with cancer are being cured of their disease. Here at the Cancer Center at Yale, new approaches devised by the best talents in scientific research are combined with the compassion and commitment of a caring team of doctors, nurses, technicians, social workers, dieticians and other professionals.

Dr. Alan C. Sartorelli
director of the Yale Comprehensive Cancer Center

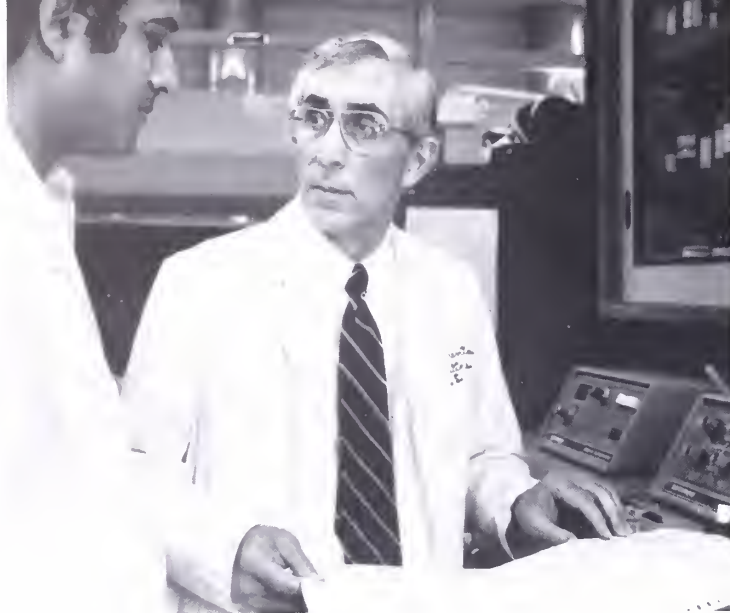
"Cancer pharmacology . . . it's fertile soil for testing new ideas."

—Dr. John Lazo,
associate professor of pharmacology

"Our lab is a group of scientists . . . its location in the Comprehensive Cancer Center allows us to bridge the clinical and basic research areas," said Dr. Lazo. "There are very few institutions in this country where clinicians can work side by side with laboratory scientists. At the Cancer Center, we're physically located next to clinical facilities. We have ready access to human tumor cells for our studies. Our laboratories are within easy reach of the doctors who are working with patients and we talk with them regularly. We listen to their ideas and observations and try to use this information in a novel way to formulate new therapies, design new drugs and test new ideas that could have immediate or long-term benefits to patients. It's an exciting and dynamic arena in which to do modern cancer pharmacology."

Much of the work of these research scientists has focused on anticancer drugs that come from natural products — fungi or other organisms — which are very difficult to study because they are complicated molecules. Bleomycin and Adriamycin are examples of chemotherapeutic agents which are natural products. Drugs made from natural products have been one of the most rapidly growing classes of compounds in the last ten years, and they now represent some of the most useful anticancer agents.

Dr. John S. Lazo



Dr. Alan C. Sartorelli, professor of pharmacology and director of the center, (right) reviews scientific data on new chemotherapeutic agents with Dr. Krishnamurthy Shyam, associate research scientist.

Some of the leaders in the world of chemotherapy research are found in Yale's Department of Pharmacology. Collaborating with scientists in medical oncology, they use biochemical and molecular principles to innovate new methods of treating cancer. Major advances in the development of many of the chemotherapy drugs which today are changing the cure rates for thousands of cancer patients around the globe, have come from the laboratories of these Cancer Center researchers.

Dr. Sartorelli's team is seeking to devise new approaches to treat leukemia and other cancers, specifically developing treatments to convert cancer cells through maturation to adult non-cancerous cells which are not capable of growth. They are using chemical agents to regulate the growth of cells by turning a cancer cell into a cell that behaves more like a normal one. That is, to make it stop reproducing itself. Research at Yale has already demonstrated that this approach works in the test tube.

With scientists in the Department of Therapeutic Radiology, they are searching for biochemical differences between hypoxic cancer cells — cells that don't have much oxygen — and normal cells that can be exploited with therapeutic agents. This information is being used to develop a new group of drugs that will preferentially attack these oxygen-deficient cancer cells. These drugs will be administered to patients in combination with x-rays and other chemotherapeutic agents to allow greater chances for cure.

Dr. Joseph R. Bertino, professor of medicine and pharmacology, and his colleagues are involved in three major areas of investigation: designing new anticancer drugs, especially some which would work against the vitamin, folic acid, which is necessary for cell growth; trying to understand how anticancer drugs work so they can be used more effectively in patients; and determining what happens within a cell that allows it to become resistant to chemotherapeutic agents.

Dr. Robert E. Handschumacher, professor of pharmacology, has recently isolated a receptor for the drug cyclosporin A, the treatment widely used to prevent rejection of transplanted kidneys and other organs. He reasoned that since cyclosporin acts on a specific part of the immune system — T-cells — it might work on patients who have T-cell leukemia or related diseases such as mycosis fungoides. His laboratory work spawned an unexpected finding: that colon cancers have high concentrations of the receptor for cyclosporin. The question of whether these laboratory findings will translate into a treatment for patients will be answered through a clinical trial conducted by physicians in Yale's medical oncology clinic.

"Clinical research is a bridge . . . it's taking care of patients using the newest treatments we're discovering in our laboratories."

— Dr. Joseph R. Bertino, *associate director for clinical research, Yale Comprehensive Cancer Center*

Being in the forefront in clinical research means applying to the bedside what the finest minds are innovating in basic research. At Yale everyone involved in the development of new anticancer drugs works together — from the first experiment at the laboratory bench right through to treating a patient in the clinic.

It was at Yale in early 1942, that pharmacologist Dr. Alfred Gilman, working with Dr. Gus Lindskog, discovered that the chemical warfare agent nitrogen mustard could shrink tumors, giving birth to a new cancer science — chemotherapy.

Fifteen years ago, Dr. Bertino, associate director for clinical research at the Cancer Center, and an internationally renowned medical oncologist, and Dr. Morton Kligerman, who at the time, was chairman of the Department of Radiology, pioneered the use of x-rays and combination chemotherapy for treating Hodgkin's disease, after noting that many patients in remission relapsed in the area of their original tumors. He and Drs. James Fischer and Leonard Prosnitz in the Department of Therapeutic Radiology, studying the kinetics of the disease in the laboratory, decided to give low-dose radiation following chemotherapy treatment. Research of this type has made a difference in the cure rate for advanced Hodgkin's disease, which has risen dramatically from 40 to 70 percent.

Today, clinical research continues at Yale — in designing different combinations of drugs, in using special substances to protect normal tissues, in developing new chemotherapy agents, and in testing monoclonal antibodies and biological response modifiers. The collaboration of pharmacologists, biochemists, toxicologists, chemists and medical oncologists, working elbow to elbow from the test tube to the patient's bedside is what makes the Yale Comprehensive Cancer Center special.



Dr. Bertino examines a patient with lymphoma whom he has treated with new combinations of chemotherapy drugs.

In the Section of Gynecologic Oncology, patient care is only part of the effort — the group is recognized nationally for research conducted on several forms of cancer.

"Tumor markers are particularly important with ovarian cancer patients," said Dr. Peter E. Schwartz, director of the Section. The markers tend to become positive well before there is any medical evidence of the disease.

"We started doing one of the first studies in the world looking at the possibility that the common cancer of the ovary might respond to estrogen," he explained. "We first presented the data in 1978, which showed that about half of the common cancers of the ovary have estrogen receptors. Subsequently, we demonstrated that they also contained progesterone receptors." Using tamoxifen, an antiestrogenic agent, Dr. Schwartz was able to arrest the growth of very rapidly growing cancers for periods of three to seven months in patients who were not expected to have the disease controlled at all.

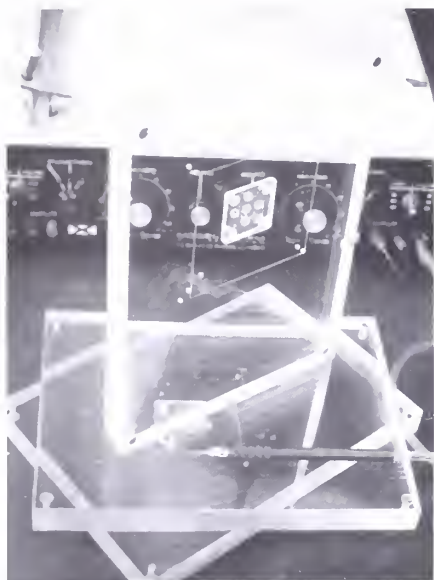
Other avenues of research include the use of new drugs combined with radiation therapy to treat cancer of the cervix, work with pharmacologists on more effective ways to use tamoxifen in advanced ovarian cancer patients and studies on a new category of endometrial cancer within the cell lining of the uterus that, under the microscope, looks exactly like ovarian cancer.

"Tumor markers — substances in the blood that can tell us if cancer has come back before we can measure it in other ways — are one of the most exciting discoveries in the last few years." — Dr. Peter E. Schwartz, *director, Section of Gynecologic Oncology*

"The Department of Therapeutic Radiology includes one of the major basic science research groups in the country, working towards improving results of radiation therapy."

— Dr. James J. Fischer, professor and chairman, Department of Therapeutic Radiology

Below, a dosimetry package prepared for shipment to one of the numerous hospitals that call upon Yale's Section of Radiological Physics to plan radiation treatment for their patients.



Complex calculations, using a computer, are needed to determine doses of radiation for each patient, with x-rays often beamed from several different directions in order to kill the tumor while sparing damage to healthy tissues. The Department of Therapeutic Radiology specializes in this exact science, called dosimetry, and is often called upon by hospitals around Connecticut and out of state to plan this sophisticated mapping. "A physician wires us a diagram of the patient's shape and the location of the tumor," explained Dr. Robert J. Schulz, professor of therapeutic radiology and chief of the Section of Radiologic Physics. Dr. Schulz and his colleagues make the calculations and send back a prescription for the doctor to carry out. "We were one of the first places in the country to specifically train dosimetrists," he said. Students with degrees in one of the physical sciences enter the program and are taught this new specialty.

Dr. Schulz also directs the Eastern Center for Radiological Physics, which is responsible for assuring that the dosimetry for radiation therapy performed at 80 hospitals in the northeast meets current standards for accuracy and is reproducible over extended periods of time.

The Department of Therapeutic Radiology, one of the oldest and largest in the country, treats more than 1,700 new patients a year at the Robert E. Hunter Radiation Therapy Center at the Yale-New Haven Medical Center, the Phelps Center at the Uncas-on-Thames Hospital in Norwich, Connecticut, and the West Haven Veterans Administration Hospital.

"The Department includes one of the major basic science research groups in the country, working towards improving results of radiation therapy," said Dr. Fischer. "We have an extremely broad view of what is relevant to radiation therapy, and have attempted to mount a research effort which covers activities from molecular biology to clinical trials."

One advantage of this kind of program is that discoveries made in the laboratory may be more quickly applied to patient care.

For instance, researchers are attempting to overcome the problem of hypoxic cancer cells — cells which do not have an adequate supply of oxygen. These cells, known to be resistant to radiation occur in tumors because a patient's blood supply is not sufficient to keep up with the rapid growth of the tumor.

Scientists in the Developmental Therapeutics Program of the Department of Pharmacology predicted that certain chemotherapy drugs would preferentially kill hypoxic tumor cells. They worked with members of the Radiobiology Group to show that in animals, these drugs, combined with radiation, destroy both tumor areas — those with and without an adequate supply of oxygen. This concept has been used to treat patients with advanced head and neck cancer and is showing significant improvement in tumor control. The successful outcome is a result of cooperation among individuals in various fields of basic and applied laboratory research and clinical research.



Dr. Fischer (center) and Dr. Timothy Mate, senior resident in therapeutic radiology, discuss a procedure with their patient, who is being treated for esophageal cancer.



The National Cancer Institute recently awarded Yale a program project grant of \$3.3 million for studies by members of the Section of Immunology on the regulation of immune response. Dr. Charles A. Janeway, professor of pathology and biology (above), is the principal investigator.

Basement membranes. Epithelial carcinomas. Oncogenes. Receptor molecules. Antigens. Monoclonal antibodies. Tumor necrosis factor. These are the tomorrow terms, excitedly discussed by the basic research scientists — the group deeply engrossed in the mystery of what makes a cell become cancerous and in studying the basic workings of the body to solve the cancer riddle.

Dr. James D. Jamieson, chairman of the Department of Cell Biology, and his colleagues, are interested in basement membranes — particularly how a tumor cell is able to form a 'hole' in the layer of cells, escaping the normal boundaries to move through the body and attach itself to another layer of cells to form a new tumor.

"We are also studying epithelial cells," Dr. Jamieson said. "These cells form tissues that cover a surface or line a cavity of the body and act as the first line of communication and defense between the external environment and the interior of the organism."

Epithelial cells are important, since nearly three-quarters of tumors that kill — such as breast, lung and prostate cancers — are epithelial tumors. Chemotherapy drugs have been most effective against rapidly dividing cells, but not against these slow-growing tumors. A very basic question is being asked: what is responsible for the growth of epithelial tumors? The answer could make a major impact on the future of cancer treatment.

Dr. Sherman Weissman and the investigators in the Tumor Virology Program are looking at the ways tumor viruses grow; how genes express themselves, and how gene products affect cells to make them turn into cancer cells. Some investigators are doing fundamental studies on the regulation of cell proliferation. Others are doing research on cell surface antigens — markers which can be used to detect cancer and to deliver cancer treatment. Dr. Peter Lengyel, professor of molecular biophysics and biochemistry, and his colleagues are investigating the mechanisms involved in the action of interferons — protein-like biological regulators — and other lymphokines. Interferons are part of the body's defenses against infection of a large variety of viruses, and also control the activity of the immune system and the growth of cells. They accomplish these functions by activating several genes. The Virology Program, representing seven departments, is internationally recognized for its pioneering roles in introducing new concepts for understanding the basic behavior of cells.

"Programs in basic research — cell biology, tumor virology, developmental therapeutics and immunology — are closely connected. We think it's essential not only for these different basic research investigators to work together, but also to be involved with what's happening to human cancer."

— Dr. Sherman M. Weissman,
associate director of basic sciences,
Yale Comprehensive Cancer Center

Current research in the Section of Immunology is based on the premise that cancer cells are distinguishable from normal cells, according to Dr. Charles Janeway. The immune system detects infectious agents and rejects them as foreign.

"It has been known for many years that cancer cells are also detectably foreign to the immune system," said Dr. Janeway. "However, it is also clear that the immune system fails to respond appropriately to transformed immune system or cancer cells that give rise to tumors."

The Yale group, initially directed by the late Dr. Richard K. Gershon, has hypothesized that some of these failures to respond to cancer cells may reflect the immune system's own regulatory signals, usually involved in preventing the system from destroying normal self cells. In cancer, this regulatory apparatus may also block the destruction of the tumor cells themselves.

Using techniques of immunology, protein chemistry and molecular genetics, Dr. Janeway and his colleagues have succeeded in showing that the body does indeed have a specific apparatus for regulating or suppressing the responses of the immune system. However, the detailed mechanics of this regulatory system are poorly understood, and none of the molecules that these cells produce have been purified, nor have the genes that encode them been identified.

In current work, the team is using an interdisciplinary approach to characterizing these products, in order to learn how to control them. Effective manipulation of the immune system by these means could have far-reaching implications both for cancer and for other immune system disorders.

"Cancer prevention at the Cancer Center at Yale has a two-pronged approach — basic epidemiological research and carrying out programs for preventing or controlling cancer by early diagnosis and by changing our lifestyles." — Dr. Dwight T. Janerich, associate director for cancer prevention and control



Dr. Dwight T. Janerich, associate director for cancer prevention and control, collaborates with Marion Morra, assistant director of the Cancer Center, on programs for preventing cancer in Connecticut residents who are at high risk.

Melanoma is rising at an alarming rate, second only to lung cancer in women. . . it's now one of the most common cancers in people born after 1950.

The Cancer Center's Melanoma Unit is among the top three in the country, seeing patients from all over the world. Here, individuals who are at high risk for melanoma are screened. Doctors and laboratory researchers map and photograph the moles, they biopsy both the most abnormal and the most normal in patients with a history of melanoma to detect and help establish differences between normal and cancerous moles.

The Melanoma Unit, established in 1978 by Dr. Kirkwood, is a multidisciplinary effort, involving medical oncologists, surgeons, dermatologists, pathologists, pharmacologists, epidemiologists and diagnostic imagery.

The Melanoma Unit has been a pioneer in developing new treatments for melanoma, including a major continuing research effort in the field of interferons, biological molecules produced by the body to fight against disease. It is joining seven other institutions in the country to test the use of chemotherapy and interferon in combination to treat melanoma.

Immunologists and oncologists associated with the unit are also experimenting with biological and chemical agents which might change melanoma cells, making them into more normal ones. In addition, there is ongoing research using antibodies to detect and to treat the disease. Dr. Kirkwood noted that "With the use of diagnostic imaging, we can label an antibody with radioactive isotopes and trace its localization to the tumor. We can perhaps find metastases that are undetectable by other means in patients who have had melanoma.

"We're working together closely, collaborating in a way which is electric." — Dr. John M. Kirkwood, assistant professor of medicine, director of the Melanoma Unit

Much of what is known about cancer comes not only from the laboratory, but also from studies of people and how they live, which tell us many things about how cancer is caused and how we can prevent it. The Cancer Center's new statewide program for cancer control research takes advantage of what is known about how certain cancers occur to find ways to prevent them altogether or diagnose them earlier, when they have a better chance of being treated successfully.

Basic research in cancer epidemiology — the study of populations and disease — demands painstaking accumulation of clues and bits of evidence. "For instance," said Dr. Janerich, "it is becoming increasingly clear, mainly through studying groups of people with colon cancer and those who don't have this disease, that a diet high in bulk and low in fat can minimize the risk of getting it. We aren't sure why this happens, but we may be able to learn, through major research projects, how to change our eating habits and what to add or subtract to make a difference in colon cancer rates."

Forecasting what the cancer rates will be in Connecticut in the next century, through statistic modeling, is also a part of this research. "For epidemiologists, the human population is our laboratory," continued Dr. Janerich. "We are fortunate that in this state we have 50 years of experience through the Connecticut Tumor Registry. More than 400,000 cases of cancer have been recorded and analyzed. Knowing how cancer behaves in our population, we can forecast the kind and number of cancer cases we will have in the year 2000. This gives us time to prepare for these future correlations, or to intercede, if possible.

Information in the Tumor Registry also gives the Cancer Center clues on what groups of people in Connecticut are at high risk for the various cancers. "With the help of institutions such as the Connecticut Department of Health Services, the University of Connecticut Health Center and the American Cancer Society, we can look at issues — how to get women to do breast self-examinations each month, or why blacks have poorer survival rates than do whites," explained Dr. Janerich. The new thrusts will help build a foundation for other statewide population-based studies to find innovative ways of controlling cancer.

THE REVOLUTION IN MEDICAL DIAGNOSTIC IMAGING

In just the last decade, the field of medical diagnostic imaging has entered into a new era with a dazzling spectrum of computer-based technology that has vastly improved diagnostic capability, and at the same time, created new roles for diagnostic radiologists.

Computed tomography (CT) scans, first used in the 1970's to detect brain tumors, now scan the entire body, using computers to organize thousands of x-rays taken by a machine which rotates around the patient's body. Recently, quantitative computed tomography (QCT) has been developed for a meaningful assessment of cortical and trabecular bone mass *in vivo* for the first time.

In 1975, the first two grey-scale ultrasound machines commercially produced were installed for evaluation in San Diego and at Yale. The scans they produced required a vivid imagination to discern any detail, and were effectively useless in the abdomen, according to Dr. Kenneth Taylor, professor of diagnostic radiology, a well known leader in the field. "Real-time machines, introduced in 1980, have gradually improved to the superb imaging devices we now have, allowing prenatal diagnosis and numerous applications in the heart, abdomen, pelvis and neonatal brain."

Other modalities, including digital subtraction angiography and Doppler and pulsed Doppler, have contributed to improved diagnosis, localization and determination of the extent of disease.

The newest diagnostic tool — and the one causing the most excitement — is magnetic resonance imaging (MRI). Without the use of ionizing radiation or intravenous contrast material, the new technology has opened a whole new area of diagnostic imaging. Its unsurpassed contrast resolution enables discrimination of the individual tissues comprising an organ. For example, grey and white matter can be distinguished in both the brain and the spinal cord. The spinal cord can be directly seen, in contrast to the mere shadow identified with myelography. Within the uterus, the glandular and muscular layers can be delineated.

"We are doing a great deal of research with MRI because it is a new technique with the potential of becoming one of our best diagnostic tools," said Dr. Richard H. Greenspan, professor and chairman of the Department of Diagnostic Radiology, who is recognized

for his research in clinical MR imaging. With its MRI center soon to be completed, Yale will be one of the leaders in the country in MR research and patient diagnosis.

As a result of the greatly improved imaging capabilities of these new diagnostic tools, radiologists, have become more involved in patient treatment. Drainage procedures, percutaneous needle biopsies, stone extractions, angioplasties and numerous other interventional procedures are performed under the guidance of imaging procedures.

"Since these procedures can frequently be done on an out-patient basis, eliminating the necessity for surgery and long-term hospitalization in some cases, this trend will undoubtedly continue," said Dr. Greenspan.

"A major task which remains to be accomplished is to increase the specificity of imaging, thus permitting the differentiation of inflammatory disease, tumor, and so forth. Extensive research to provide greater specificity is being carried out at Yale," he noted.

The comfort of the patient, as well as safety are important considerations in this explosion of technological advances in the field. Ultrasound and MRI have thus far not revealed any harmful effects, and other new techniques offer improved resolution of conventional radiographs with smaller doses of radiation to the patient. For patients who are unstable, portable x-ray units, ultrasound scanners and nuclear medicine cameras can be brought to the bedside.

To achieve maximum results from this extraordinary progress in the field, a teaching and consultation program for integrated imaging has been developed at Yale. "Because of the large number of imaging procedures now available, it is necessary to avoid duplication and to plan a logical workup of individual patients," explained Dr. Greenspan. "This requires prospective consultation between the clinician and the radiologist. The choice of imaging procedures can no longer be delegated to individuals who are not familiar with the advantages and the limitations of various imaging methods," he said.

"In an attempt to use these modalities to their best advantage, we have initiated an innovative prospective consultation program. The program will also help to educate both the radiologists and the clinicians by providing evaluation of the clinical efficacy of the various imaging methods."

Yale's ultrasound section is one of the country's leaders in developing blood flow ultrasound, a new method which may be useful in detecting cancer.



FIG. 1

Fig.1 1975 ultrasound scan reportedly shows septated, renal cysts. A vivid imagination is required.



With improved diagnostic imaging techniques, the treatment of the fetus at risk in utero with medical or surgical therapy has become a reality. Surgical therapy, still under evaluation, has included placement of catheters to resolve an obstructive process such as hydrocephaly, and to treat the fetus with posterior urethral valve obstruction. The use of ultrasound in these procedures has eliminated the need for techniques involving radiation exposure to ensure proper placement of the catheters.

One of the impressive results of improved diagnostic radiologic techniques is the use of echocardiology for imaging fetal cardiac development. By first determining the structure of the normal fetal heart, Drs. Charles Kleinman, John Hobbins and Orvan Hess were able to discern fetal cardiac anomalies of the gross structure of the heart and ultimately, to study heart function and rhythms.

After analyzing the various fetal heart arrhythmias, Dr. Kleinman, associate professor of pediatrics and diagnostic radiology (in photo), developed a treatment for fetal non-immune hydrops, a condition long associated with interuterine death. To date 19 infants with this condition have been successfully treated at Yale. A fetal cardiovascular center was established here last spring for diagnostic procedures for pregnant women whose fetuses are at cardiac risk.

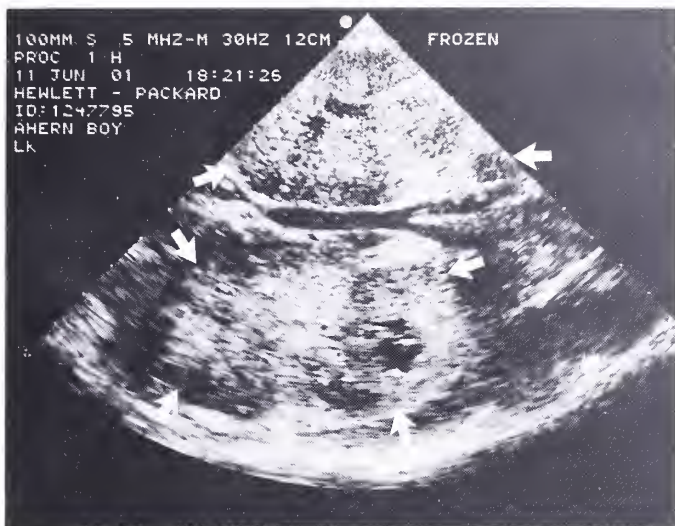


FIG. 2

Fig.2 Currently, real-time ultrasound machines are available which produce dynamic images like a movie. This scan is a frozen frame from a real-time tape showing a section through fetal trunk. Huge disorganized renal masses are seen (arrows) with the aorta between them dividing into the iliac arteries below. These appearances indicate infantile, polycystic kidney.

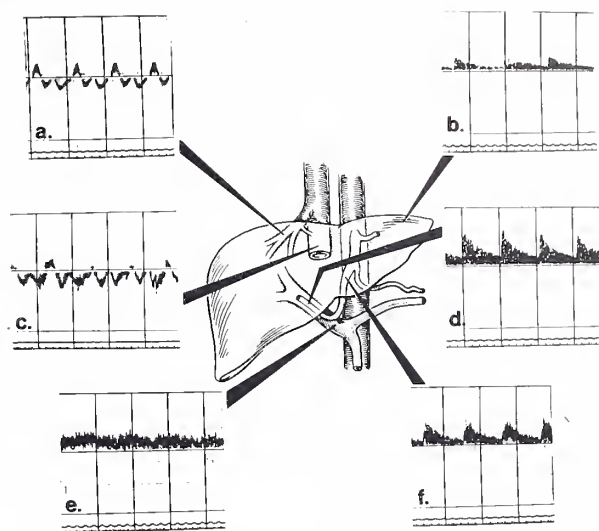


FIG. 3

Fig.3 Continuous wave Doppler and pulse Doppler have introduced another modality to assess the presence of flow and to quantitate hemodynamic abnormalities. In this figure, Doppler wave forms are noted in many vessels around the liver. This allows noninvasive detection of perfusion in deep seated vessels. (courtesy Radiol)

Fig. 4 CT scan demonstrating the intimal flap (arrow) in a patient with aortic dissection. This study obviated the need for arteriography, an invasive procedure.

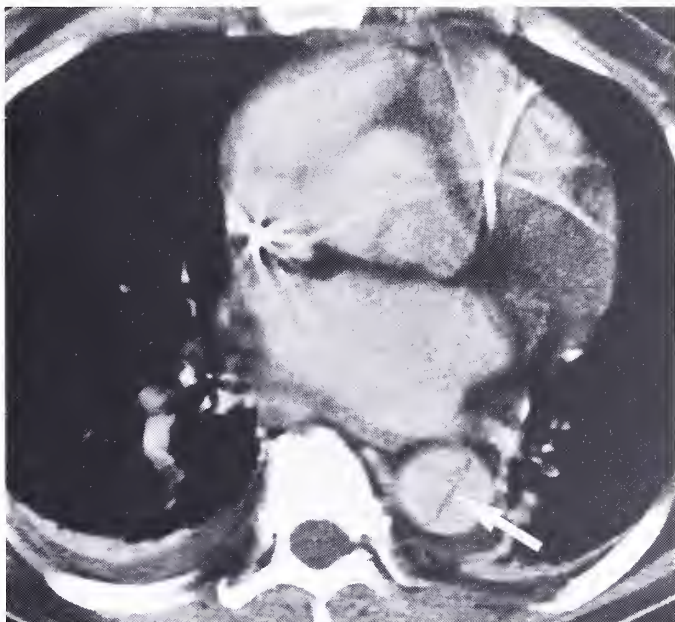


FIG. 4

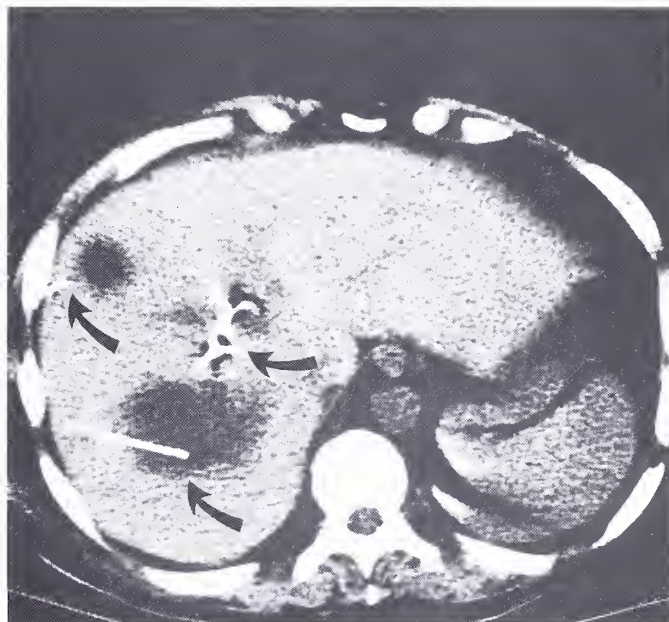


FIG. 5



FIG. 6A

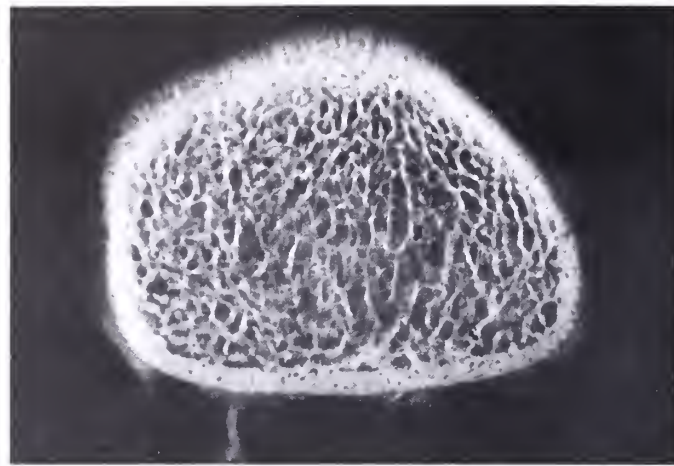


FIG. 6B

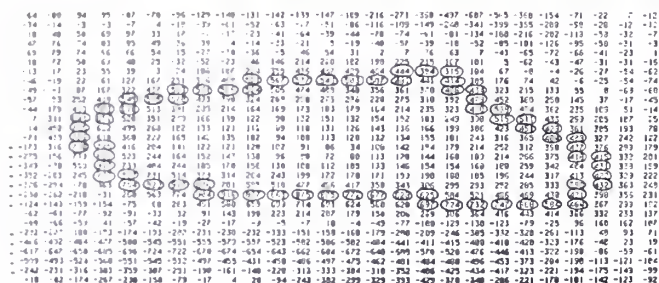


FIG. 6C

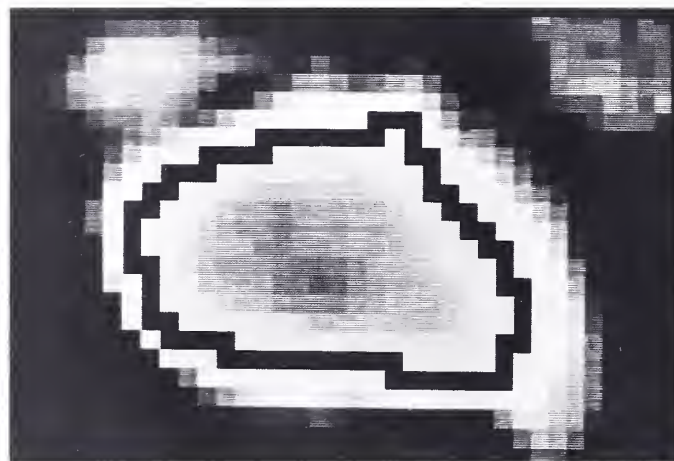


FIG. 6D

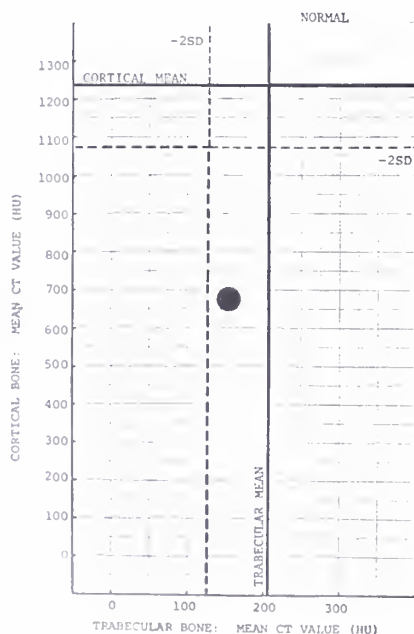


FIG. 6E

Fig. 6. Standard radiographs can only identify the degree of bone mass loss when it is as much as 30 to 50 percent (Fig. 6A). Prior to quantitative computed tomography (QCT), evaluation of a bone biopsy was the most reliable method for measuring the extent of bone present (Fig. 6B).

Drs. Pamela Jensen and Stylianos Orphanoudakis, associate professors of diagnostic radiology, developed a method using QCT to measure the bone mass of the distal radius (area between the lines in Fig. 6A). This technique permits the separate assessment of the thick bone on the cortex and the spongy trabecular bone. The computer identifies the high density CT values on the cross-sectional CT image corresponding to the cortex circled numbers in Fig. 6C, and creates a corresponding black line in the center of the cortex (Fig. 6D). The mean value of these numbers reflects the cortical bone mass. The trabecular bone mass is determined by averaging the CT values in the cortex; trabecular bone can then be compared with the normal values (Fig. 6E). In the example here, there is both cortical and trabecular bone loss due to osteoporosis.

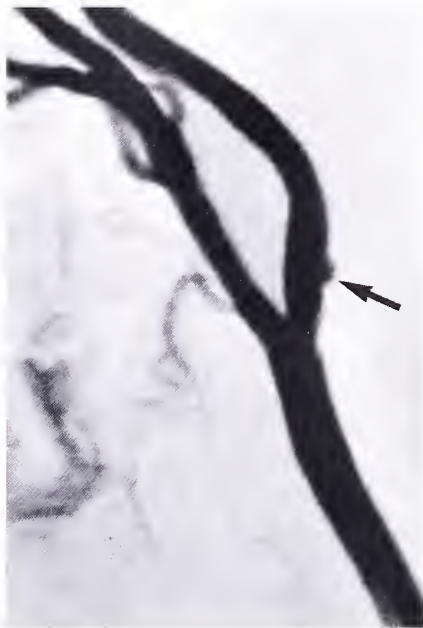


Fig. 7 Intra-arterial digital subtraction angiography (DSA) demonstrating fine resolution. Note the presence of a small ulcerating plaque (arrow) near the origin of the left internal carotid artery.

Fig. 8A An abdominal aortogram of a 50-year old man with hypertension revealed a significant stenosis (arrow) at the origin of the left renal artery.

Fig. 8B Inflated balloon of angioplasty catheter at the site of the renal artery stenosis.

Fig. 8C Abdominal aortogram post-angioplasty indicates there is no residual stenosis, and the patient has subsequently become normotensive.

Fig. 9A Arteriogram demonstrates occlusion of the popliteal artery. Fibrinolytic therapy was instituted in place of surgery.

Fig. 9B Arteriogram obtained 12 hours after local infusion of low-dose Streptokinase was instituted. The popliteal artery, which was thrombosed due to an aneurysm, has recanalized. The streptokinase was infused via a small catheter, the tip of which was initially embedded in the thrombus (arrow).

FIG. 7

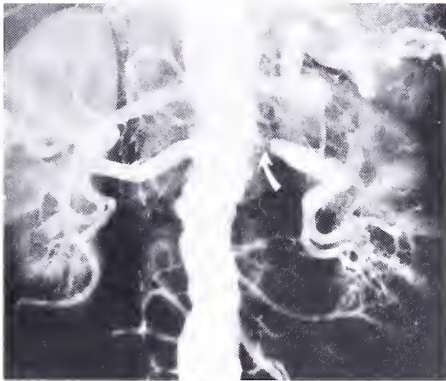


FIG. 8A

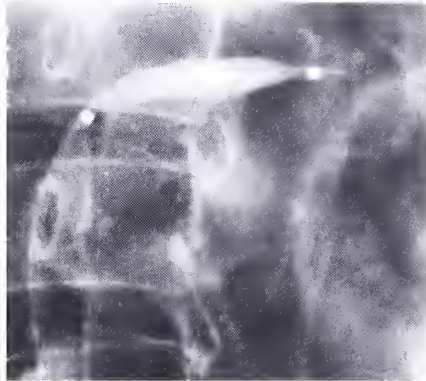


FIG. 8B



FIG. 8C



FIG. 9A



FIG. 9B

A major task which remains to be accomplished is to increase the specificity of imaging. Extensive research in this area is being carried out at Yale.



Magnetic Resonance Imaging Unit enables the viewing of parts of the body previously unexplored by other techniques. "Magnetic resonance imaging can pick up tumors in locations that other technology cannot reach, such as the base of the skull, the spine and the pelvis. It's hard to see the soft tissue in these areas with a CT scan, but MRI shows it because you can't see the overlying bones," explained Dr. Richard H. Greenspan (above) "It's also useful for tumors which have metastasized."

MRI, the newest tool in diagnosis, can examine soft tissues more clearly than bones.

FIG. 11

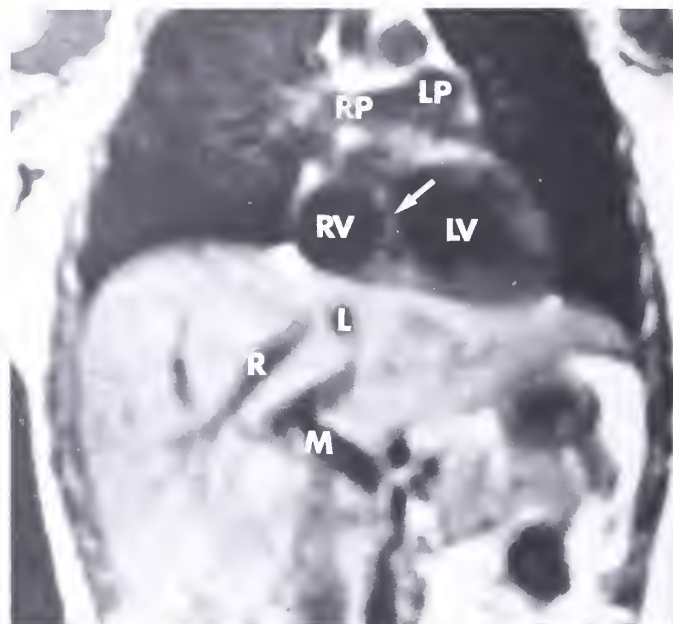


Fig. 11 Coronal MR scan through the chest and abdomen demonstrating right (RV) and left (LV) ventricles, right (RP) and left (LP) pulmonary arteries, and interventricular septum (arrow) of the heart. Also note the main portal vein (M) branching into the right and left lobes of the liver and the right (R) and left (L) hepatic veins.

FIG. 12

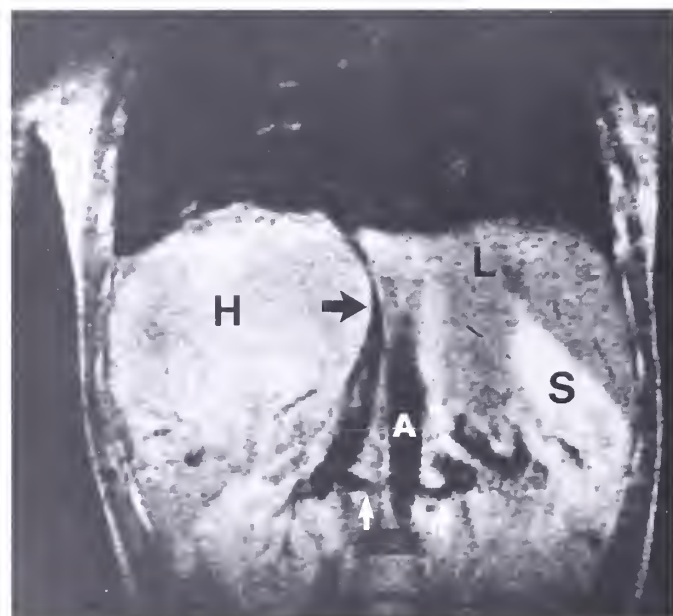


Fig. 12 Coronal MR scan of abdomen showing hepatoma (H), high intensity area in right lobe, displacing inferior vena cava (large arrow). Note normal left lobe (L), spleen (S), aorta (A) and renal arteries (small arrows).

here & about

SYMPOSIUM HONORS DR. LERNER

Colleagues came from across the nation and from overseas on June 22 to pay tribute to Dr. Aaron B. Lerner at a symposium celebrating his three decades of dedication and outstanding accomplishments as scientific investigator, clinician and administrator. A member of the Yale faculty since 1955, Dr. Lerner was appointed chairman when the Department of Dermatology was established in 1971 — a post he will hold until he is succeeded by Dr. Richard Edelson on January 1.

Dean Leon E. Rosenberg gave the opening remarks of the day-long program presented by distinguished scientists. "His 30 years at Yale have been full ones — as clinician, teacher, administrator and investigator. Aaron and the colleagues he recruited made Yale's dermatology program a premier one nationally — a model for others to praise and to compete with," said Dean Rosenberg.

"He interested a generation of medical students in academic or clinical careers in dermatology. He helped train dermatology residents and fostered a collegial relationship between full time faculty and community practitioners without the town/gown tensions so characteristic of other clinical specialties.

"But most of all professionally, Aaron has been a scientist. He demonstrated his investigative acumen early — during medical school when he and Cecil Watson discovered the first patient with cryoglobulinemia and isolated the protein from serum. When, a few years later, he turned his attention to the field of cutaneous pigmentation, he proceeded to make a series of major contributions including: early definition of the mechanism of enzymatic cleavage of phenylalanine and tyrosine; isolation and characterization of melanocyte stimulating hormone (MSH) and of melatonin; recognition of the universal nature of vitiligo in the animal kingdom; clues to the mechanism of action of MSH; and the development of experimental therapies for melanoma. This work, not surprisingly, has brought Aaron considerable acclaim, notably the Myron-Gordon Award for pigment cell research in 1969, election to the National Academy of Sciences in 1973, and the Lita Annenberg Hazen Award for excellence in clinical research in 1981. . .

"I'll close by saying simply that as



DR. LERNER

you, Aaron, prepare to embark on yet another phase in your remarkable life and illustrious career — that again of clinician/ scientist — we wish you every success, confident that you will continue to make lasting contributions to medicine, to science, to Yale, to your friends, and to your family," Dean Rosenberg concluded.

The symposium faculty included Julius Axelrod, Ph.D., chief, Section of Pharmacology, Laboratory of Clinical Science, NIH; Jack D. Barchas, M.D., professor of psychiatry and behavioral sciences, Stanford University; Dr. Edelson; Thomas B. Fitzpatrick, M.D., professor of dermatology, Harvard University; Klaus Hofmann, Ph.D., University Professor of Experimental Medicine and Biochemistry, University of Pittsburgh; John A. Parrish, M.D., professor of dermatology, Harvard University; John A. Pawelek, Ph.D., senior research scientist, dermatology, Yale University; Sheldon R. Pinne, M.D., professor of medicine, Duke University; Kazuo Shizume, M.D., professor of medicine, Tokyo Women's Medical College, and Richard J. Wurtman, M.D., professor of neuroendocrine regulation, M.I.T.

Manuscripts based on talks presented at the symposium will be published in a forthcoming issue of the *Yale Journal of Biology and Medicine*.

STUDENT RESEARCH FELLOWSHIPS ESTABLISHED IN HONOR OF TWO DISTINGUISHED LATE FACULTY

The Dr. Vernon W. Lippard Student Fellowship in Pediatrics

The William T. Grant Foundation of New York has made a \$50,000 grant to the School of Medicine to establish the Dr. Vernon W. Lippard Student Fellowship in Pediatrics. The gift comes during the school's \$125 million capital campaign to increase its endowment, meet research and program needs and provide new and renovated facilities.

This summer student research fellowship, one of several being established in the school, honors Dr. Lippard, who died in December 1984. For many years the distinguished medical educator, who was dean of the school from 1952 to 1967, served as chairman of the William T. Grant Foundation's Faculty Scholars Selection Committee.

Dr. Robert H. Gifford, associate dean for medical education and student affairs, said that the new funds will support medical student research, adding, "Yale School of Medicine is a perfect place to generate excitement for student research because of the requirement that all students must complete a thesis in order to graduate, and because of the outstanding quality of our students." Last summer, nearly 100 students remained in New Haven to work in various laboratories.

This summer fellowship of \$2,250 will be awarded annually to one or more students working on children's behavior and development in either the Department of Pediatrics or the Child Study Center. Application deadline is April 1.

The Richard K. Gershon Student Research Fellowship

The School of Medicine has established the Richard K. Gershon Student Research Fellowship with gifts made in honor of the late physician-scientist.

The endowed fellowship will enable a young man or woman to spend an extra year at the medical school and conduct research in the field of immunology or a related discipline. The school will present the first fellowship in July 1986.

"We hope that this fellowship and others to come will stimulate medical students to pursue biomedical research careers and to remember Richard Gershon's creative scholarship," said Dean Leon E. Rosenberg.

Dr. Gershon, who died at age 50 in July 1983, was professor of pathology,

continued on page 22

IMMUNOLOGIST APPOINTED CHAIRMAN OF DERMATOLOGY

Dr. Richard L. Edelson, a noted clinical immunologist and teacher, has been appointed professor and chairman of the Department of Dermatology, effective January 1, 1986. Dr. Edelson is professor and director of research, Department of Dermatology, Columbia University's College of Physicians and Surgeons, and associate director of the General Clinical Research Center (GCRC), Columbia-Presbyterian Medical Center. He succeeds Dr. Aaron B. Lerner, who has been chairman of the Department of Dermatology since its founding in 1971.

"Since Rick Edelson graduated from the Yale School of Medicine, he has made outstanding individual research contributions and has skillfully directed research programs at Columbia. His commitment to research, combined with his dedication to teaching and patient care are key attributes he will bring in leading the Department of Dermatology," said Dean Leon E. Rosenberg.

Dr. Edelson is recognized for his research on cutaneous T-cell lymphomas, a rare form of leukemia. A graduate of Hamilton College, Clinton, New York, he received his M.D. degree from Yale in 1970. He spent the following year as an intern in internal medicine, University of Chicago Hospital and Clinics, and in 1971-72, was resident in dermatology at Massachusetts General Hospital. From 1972 until 1975, he was research associate in the Laboratory of Immunology, National Institute of Allergy and Infectious Diseases, NIH.

Dr. Edelson joined the faculty of Columbia University's College of Physicians and Surgeons in 1976 as an assistant professor of dermatology. He was promoted to associate professor in 1978, and in 1983, was named professor and director of research in dermatology. He has been associate director of the GCRC at Columbia Presbyterian Medical Center since 1980.

A member of the American Society for Clinical Investigation, he has received the Irma T. Hirsch Career Investigator Award, the McKee Research Prize, and the American Academy of Dermatology Scientific Exhibit Award.



DR. EDELSON



DR. THIER



DR. SINGER



DR. HEIRHOLZER

DR. THIER NAMED PRESIDENT OF THE IOM

Dr. Samuel O. Thier, a noted physician, educator, and health care administrator, has been selected to become the fifth president of the Institute of Medicine (IOM). Currently Sterling Professor and chairman of the Department of Internal Medicine at Yale, Dr. Thier was sworn into a five-year term at an inauguration during the IOM annual meeting in Washington on October 16-17. Until January, he will be president-designate and will commute between posts at Yale and the IOM. In January, he assumes the IOM presidency on a full-time basis.

The 650 member Institute of Medicine was chartered in 1970 by the National Academy of Sciences to enlist distinguished members of medical and other professions to examine policy matters pertaining to the public's health. As president, Dr. Thier will serve on the governing board of the National Research Council, the operating arm of the NAS and its sister organization, the National Academy of Engineering.

Dr. Thier has been chairman of the Department of Internal Medicine since 1975. During that time he has initiated improvement of the training of doctors in the field of clinical research and the establishment of a network of affiliated hospitals throughout southwestern Connecticut for providing continuing education for internal medicine physicians. In addition, he has been responsible for initiatives to ensure that the shifting focus of medicine from hospital-based to more ambulatory care is reflected in the university's residency program.

The process of finding a successor to Dr. Thier as chairman of the Department of Internal Medicine is underway. Applications and nominations are invited.

Candidates must be qualified for faculty appointment at the rank of professor, and must be recognized leaders in the field with proven ability as scholars, clinicians, teachers and administrators. Appointment is to be effective July 1986 or as soon thereafter as possible. Applications should be submitted prior to January 15, 1986. Qualified women and minority group members are encouraged to apply. Curriculum vitae and bibliography should be sent to the Chairman of the Search Committee: Dr. Vincent T. Marchesi, Department of Pathology, Yale University School of Medicine, 333 Cedar Street, P.O. Box 3333, New Haven, CT 06510

BIostatistician APPOINTED TO EPH FACULTY

Dr. Burton H. Singer has been appointed professor of public health (biostatistics) and head of the Biostatistics Division in the Department of Epidemiology and Public Health, effective July 1. Prior to his appointment, he had been professor of mathematical statistics and since 1983, chairman of the Department of Statistics at Columbia University.

Dr. Singer is recognized in academic and industrial communities for his broad range of statistical expertise in fields as diverse as demography, economics, sociology and epidemiology. A graduate of Case Institute of Technology, where he received his B.S. in engineering science in 1959 and his M.S. in mechanical engineering in 1961, he received a Ph.D. degree in statistics from Stanford University in 1967.

A member of the Columbia University faculty since 1967, Dr. Singer also has been adjunct professor at Rockefeller University since 1977. From 1979 to 1981, he was visiting investigator in the Biostatistics Laboratory of Sloan-Kettering Institute for Cancer Research.

A Fellow of the American Association for the Advancement of Science as well as of the American Statistical Association, Dr. Singer is a member of the editorial board of the Springer-Verlag Series, "Frontiers of Primary Medicine", and is chairman of the Panel on Immigration Statistics of the National Research Council, National Academy of Sciences. He also serves as chairman of the advisory board of the Department of Statistics at Princeton University.

DR. HIERHOLZER APPOINTED

Dr. Walter J. Hierholzer, Jr., a University of Iowa epidemiologist, has returned to Yale as professor of medicine and epidemiology, and to Yale-New Haven Hospital as hospital epidemiologist. His appointment was effective September 1.

Dr. Hierholzer, who was at Yale for 17 years as a student, resident physician and a faculty member, has been associate professor of medicine and preventive medicine at the University of Iowa College of Medicine and attending physician, consultant in infectious diseases and hospital epidemiologist at the University of Iowa's Hospitals and Clinics since 1976. He also was a consultant and hospital epidemiologist at the Veterans

Administration Medical Center in Iowa City.

At Iowa, Dr. Hierholzer developed a nationally recognized program in hospital epidemiology. The program includes an infection control-quality assurance support service for which he and others developed a computerized infection data management system. An international corporation now markets the system.

In addition, the program encompasses a regional education and consultation service that several Iowa state organizations support. It serves all hospitals in Iowa and some in surrounding states.

A native of Midland, Michigan, Dr. Hierholzer received a B.A. degree from Albion College and his M.D. degree from Yale in 1961; this was followed by residency training at Yale-New Haven Hospital. He is a member of Phi Beta Kappa and was a Fulbright Scholar to Denmark at the Biological Institute of the Carlsburg Foundation.

In 1967, he joined the Yale faculty as an instructor in internal medicine and the following year, served a postdoctoral fellowship in pediatric infectious diseases and virology. Between 1970 and 1976, he held appointments at the School of Medicine, West Haven Veterans Administration Hospital, and Yale-New Haven Hospital, where he served as hospital epidemiologist from 1973 to 1976.

DR. RASTEGAR APPOINTED CHIEF OF MEDICINE AT VA MEDICAL CENTER

Dr. Asghar Rastegar has been appointed associate professor of medicine at Yale, and chief of medicine at the West Haven Veterans Administration Medical Center. An outstanding teacher and administrator whose research interests are in renal physiology, he returns to Yale from the University of Colorado, where he was associate professor of medicine.

Born in Shiraz, Iran, Dr. Rastegar received both his B.A. and M.D. degrees from the University of Wisconsin, and served his residency at the University of Pennsylvania, where he also served a renal fellowship and was chief resident in medicine. He then returned to Iran, where he became dean for academic affairs and a leading figure on the medical faculty of the Shiraz University School of Medicine (formerly Pahlavi University). He spent a sabbatical year at Yale in 1977 as visiting associate professor in the Department of Internal Medicine.

Dr. Rastegar spent the year 1983-84 at

the West Haven VA Medical Center prior to his appointment at the University of Colorado, where in addition to his academic appointment, he was director of the residency program in the Department of Medicine, and chief of medical services at Colorado General Hospital.



DR. DeCHERNEY

DR. DeCHERNEY APPOINTED TO ENDOWED CHAIR

Dr. Alan H. DeCherney has been designated the John Slade Ely Professor of Obstetrics and Gynecology. Nationally recognized for his work in infertility and *in vitro* fertilization, Dr. DeCherney is also Chief of the Section of Reproductive Endocrinology in the Department of Obstetrics and Gynecology.

In addition to his research and clinical activities, Dr. DeCherney is an outstanding teacher. He has coordinated the residency program and resident education in obstetrics and gynecology at Yale-New Haven Hospital, and directed the Ambulatory Service Council there since 1974.

A graduate of Muhlenberg College in Allentown, Pennsylvania, he received his M.D. degree from Temple University in 1967. He came to the School of Medicine in 1974 as assistant professor of obstetrics and gynecology as well as chief of the Section of Reproductive Endocrinology. In 1979, he was promoted to associate professor and in 1984, he was appointed professor. Dr. DeCherney will assume his new title on January 1.

The John Slade Ely Chair was established in 1906 to honor Dr. Ely, professor of medical theory and practice from 1897 to 1906. The last incumbent of the chair was Dr. John McL. Morris, who became an emeritus professor in July.

LCI RENAMED TO HONOR DR. LIPPARD

The School of Medicine's Laboratory for Clinical Investigation has been renamed the Lippard Laboratory for Clinical Investigation to honor Dr. Vernon W. Lippard, who died last December. The distinguished medical educator had been dean of the school from 1952 to 1967 — a time of phenomenal growth in its academic programs, faculty and facilities.

Dr. Lippard considered the Laboratory for Clinical Investigation one of his proudest accomplishments. Built in 1966 to provide facilities for the growing research needs of the Departments of Medicine and Pediatrics, the 10-story glass and brick structure reflects his concept of the medical school as an "academic atmosphere where communication between clinicians and basic scientists is easy and natural, and a line between the two is difficult to define."

FIVE BECOME PROFESSOR EMERITUS

Five distinguished members of the Yale medical faculty retired on July 1, 1985.

Dr. Elisha Atkins, professor of medicine, is one of the leading investigators in the world on the mechanism of fever production, and an outstanding clinician in the field of infectious disease. He received his M.D. degree from the University of Rochester and joined the Yale faculty in 1955 after completing postgraduate training at Barnes Hospital and Washington University in St. Louis. Dr. Atkins also served as master of Saybrook College at Yale from 1975 until his retirement this year.

Dean of the School of Medicine from 1973 to 1984, **Dr. Robert Berliner**, professor of physiology and medicine, has been a member of the Yale faculty for 12 years. He is a graduate of Yale College and Columbia University College of Physicians and Surgeons. A world renowned authority on renal physiology, Dr. Berliner, from 1950 until his appointment as dean, was at the National Institutes of Health and was its deputy director from 1969 to 1973.

Dr. W.W.L. Glenn, the Charles W. Ohse Professor of Surgery, has been a member of the faculty for 37 years. Appointed as an assistant professor in 1948. He became Yale's first cardiac surgeon; he developed and perfected early techniques for repair of congenital and valvular heart disease. More recently he has received international recognition for his innovative

work on radiofrequency pacemakers to regulate the heart rate and also respiration. He is a graduate of Jefferson Medical College and completed his surgical residency training at the Massachusetts General Hospital.

Former chief of the Section of Otolaryngology, **Dr. John A. Kirchner**, professor of surgery (otolaryngology) came to Yale in 1951 as an assistant professor and the first full-time chief of that section. He received his M.D. degree from the University of Virginia and completed his residency training at the Johns Hopkins Hospital. Dr. Kirchner soon became widely known in this country and abroad for his research, which has focused especially on the larynx and laryngeal cancer.

Dr. John McLean Morris, the John Slade Ely Professor of Gynecology, received his M.D. degree from Harvard, completed his residency training at the Massachusetts General Hospital, and was a Damon Runyon clinical research fellow at the Radiumhemmet in Stockholm, Sweden prior to joining the Yale faculty as an associate professor in 1952. The gynecologic service here was developed under Dr. Morris' leadership. In addition to his contributions as an outstanding clinician, he has also received world-wide recognition for research in two distinct areas — treatment of gynecologic neoplasms and conception control. Dr. Morris has long been concerned about the hazards of unlimited population growth and the problems of population control.

AWARDS TO FACULTY AND HOUSE STAFF 1985

The Francis Gilman Blake Award, presented each year by the graduating class to the outstanding teacher of the medical sciences was awarded to Dr. Kenneth W. Barwick, associate professor of pathology.

Dr. James S. Grober, '83, a resident in internal medicine, was selected by the senior class to receive the Betsy Winters House Staff Award, presented annually to the member of the house staff of Yale-New Haven Hospital who has made the most significant contribution toward the education of medical students.

The Benedict Harris Award, established in 1967 to recognize the private physician who has contributed the most to the teaching of house staff, was presented this year to Dr. Steven J. Mason, assistant clinical professor of medicine (cardiology).

In addition, Dr. Mason was the recipi-

ent of the first Meyer Etkind Prize, awarded to the community physician who, in the opinion of the house staff, provides the best clinical expertise and compassionate care to his or her patients.

Dr. Mark Marieb, an intern in internal medicine, and Dr. Eric Winer, junior assistant resident in medicine received the Samuel D. Kushlan Awards, recognizing the intern and second-year resident who have contributed the most to patient care during rotation through the Memorial Unit Medical Service. Selection of recipients is made in consultation with the clinical faculty and nursing service.

PROMOTIONS AND APPOINTMENTS

The following members of the medical faculty were promoted to professorships effective July 1, 1985: **Robert S. Adams, M.D.**, *clinical professor in the Child Study Center*; **Leonard R. Farber, M.D.**, *clinical professor of medicine*; **John N. Forrest, M.D.**, *professor of medicine*; **Thomas W. Hansen, M.D.**, *clinical professor of dermatology*; **Ravinder Nath, Ph.D.**, *professor of therapeutic radiology (radiological physics)*; **Peter E. Schwartz, M.D.**, *professor of obstetrics and gynecology*; **Dennis D. Spencer, M.D.**, *professor of surgery*; **Robert K-J. Yu, Ph.D.**, *professor of neurology*; **Joseph H. Zelson, M.D.**, *clinical professor of pediatrics*.

New appointments at the rank of clinical professor, effective July 1985 include **Gerald W. Peskin, M.D.**, *clinical professor of surgery*, and **Jack L. Westcott, M.D.**, *clinical professor of diagnostic radiology*.

The following associate professors have been awarded tenure appointments: **Roland Baron, D.D.S.**, *associate professor of surgery (orthopedic)*; **Priscilla Dannies, Ph.D.**, *associate professor of pharmacology*; **Ralph I. Horwitz, M.D.**, *associate professor of medicine*; **Laura K. Manuelidis, M.D.**, *associate professor of neuropathology*; **Nancy H. Ruddle, Ph.D.**, *associate professor of epidemiology (microbiology)*; **Allen C. Steere, Jr., M.D.**, *associate professor of medicine*, and **Robert B. Tesh, M.D.**, *associate professor of epidemiology*.

YALE AWARDED \$3.5 MILLION TO ESTABLISH CENTER IN NEUROSCIENCE

The National Institute of Neurological and Communicative Disorders and Stroke has awarded \$3.5 million to Yale University to establish a Javits Center of Excellence in Neuroscience in the Section of Neuroanatomy. It is one of four centers to be established by NINCDS in honor of former U.S. Senator Jacob K. Javits.

Dr. Pasko Rakic, chairman of the section and Dorys McConnell Duberg Professor of Neuroscience is principal investigator, and Dr. Patricia S. Goldman-Rakic, professor of neuroscience, is co-principal investigator of the center.

Selected from among 55 institutions, the Javits Centers of Excellence in Neuroscience will be devoted to fundamental biological issues of the nervous system structure and function. The center at Yale will focus on the development, plasticity and organization of the neocortex at the molecular, structural and functional levels.

In man, the cerebral cortex constitutes by far the largest portion of the brain and is the key structure subserving human mentation and intellect. Dysfunction of the cortex is responsible for numerous neurological and psychiatric diseases. The NIH Javits Center Award, which is for five years, will allow application of the most advanced neurobiological techniques to the study of the neocortex.

STUDY TO FOCUS ON INFECTION IN ELDERLY IN NURSING HOMES

The Center for Disease Control has awarded two Yale School of Medicine professors a contract to conduct an 18-month collaborative study of the cause and complex nature of infections acquired by elderly residents of nursing homes. It is the first study of its kind in the country, according to CDC officials.

Dr. David A. Pearson, associate dean and research scientist in public health, and Dr. Walter J. Hierholzer, professor of medicine and epidemiology and public health, plan to define the risks, determine who are vulnerable to the infections and identify infections which may be prevented in residents of the nation's 18,900 skilled nursing homes. In addition, they intend to develop guidelines for prevention of infections acquired as a result of hospitalization or institutionalization (no-

socomial infections.

By the year 2000, 12 percent of the nation's population will be 65 years or older, and life expectancy continues to increase. "More and more individuals will require temporary and long-term care in our nation's extended care facilities," said Dr. Pearson. "As a result, infection prevention and control are viewed as essential requirements for an acceptable standard of living for these residents."

Several known risk factors contribute to the infections that elderly persons acquire in nursing homes, where residents are predominantly female, white, widowed and over age 75. The risk for nosocomial infections include decline in immune response as people age, the burden of chronic underlying diseases, nutrition, physiologic changes, alteration in mental status and age-related changes in various diseases from which they may suffer.

Drs. Pearson and Hierholzer believe that specific infection control procedures need to be developed for extended care facilities which differ from hospitals. For example, if nursing home residents need to be isolated, then reasonable and realistic procedures are needed which must represent a balance between risk of transmission and the need to maintain patients' psychological and social integrity in the facility's community.

Within the past 15 years, hospitals with acutely ill patients have started programs to reduce infections that their patients acquire. However, few studies have been done on infections that may be acquired by those receiving chronic care in nursing homes.

The Yale study, scheduled to be completed in December 1986, will involve a random survey of 20 percent of the licensed, skilled nursing facilities in Connecticut.

SCHOOL RECEIVES \$400,000 FOR TRAINING IN CHILDHOOD NEUROPSYCHIATRIC DISORDERS

Long recognized for its leadership in child psychiatry, the School of Medicine has received a grant of \$400,000 from the National Institute of Mental Health for a five-year training program in childhood neuropsychiatric disorders. Dr. James F. Leckman, associate professor of psychiatry and pediatrics is director of the program based in the Child Study Center.

"A training program devoted exclusively to the education and training of clinical investigators in child psychiatry is urgently needed," said Dr. Leckman. "While biomedical knowledge is expanding at an increasingly rapid rate, there are only a handful of active clinical investigators in child psychiatry who are able to translate new findings of basic research into relevant advances in clinical practice."

Three fellows will participate in the program during the first year, and in subsequent years there will be four, each of whom will remain in the program for two years. It is anticipated that one or two fellows will be physicians in child psychiatry or pediatrics; the remaining two or three will be postdoctoral fellows in developmental psychology, analytic neurochemistry or human genetics.

The program will emphasize interdisciplinary approaches to childhood neuropsychiatric disorders such as infantile autism, Tourette's syndrome, fragile X syndrome and attention deficit disorder with hypertension. "By focusing on these disorders, researchers in the Child Study Center have developed a range of clinical instruments and neuropharmacological and genetic strategies applicable across disorders," explained Dr. Leckman. "We also believe that understanding the mechanisms underlying a particular set of behaviors as they occur in one syndrome — hyperactivity, for instance — will increase our understanding of similar behavior in other disorders."

THE CLASS OF '89

Sixty-two men and 40 women entered the first year medical class in September. They are among the 2,619 students representing 50 colleges who applied for admission, and the 199 who were accepted for the class of 1989.

Typically, the class is highly qualified academically, based on GPA and MCAT scores. Ivy League and West Coast colleges supplied the most students, and while almost all of them are entering after four years of college, 11 have masters degrees. Five of the new students are enrolled in the M.D./Ph.D. program.

As in all previous classes, the majority of the class of 1989 majored in science as undergraduates, but 15 concentrated on the social sciences while others majored in the humanities. In addition to being excellent in their academic endeavors, they participated extensively in extracurricular activities, especially in independent study or research.

continued on page 22

PHYSICIAN ASSOCIATES HOLD 14th GRADUATION

Twenty-three students graduated August 19 from the Physician Associate Program at the School of Medicine. They were members of the 14th class to complete the 24-month program.

Dr. Alan C. Mermann, chaplain of the school and clinical professor of pediatrics, delivered the commencement address "The Impasto Experience", based on the life of Vincent Van Gogh, during ceremonies held in Mary S. Harkness Auditorium. Dr. Mermann developed and taught the medical ethics course for the 1985 class.

During the ceremony, several awards were presented. Dr. Richard D'Aquila, a fellow in the Section of Infectious Diseases, and a research fellow in the Departments of Therapeutic Radiology, Human Genetics, and Molecular Biophysics and Biochemistry, received the Student Didactic Instructor Award.

The Student Clinical Instruction Award was presented to the Department of Obstetrics and Gynecology at Bridgeport Hospital, a clinical site for Yale PA students for more than a decade.

John Dailinger, a physician associate at the Yale Health Plan's urgent visit area, received the Jack Cole Society Award, which is presented to an individual whom the class believes has made a significant contribution to their educational program, as well as to their profession.

AN OPPORTUNITY TO ASSIST IN UNDERGRADUATE MEDICAL EDUCATION IN CHINA

There have been increasing contacts between medical schools in this country and The People's Republic of China in the six years since the normalization of diplomatic relations between the two nations. One recent program involving the Yale School of Medicine, under the auspices of Yale-China Association's Medical Exchange Program, provides medical school instruction in the English language to a group of selected medical students at Hunan Medical College in Changsha.

With a firm background in the language, these students have received all of their medical classes in English. This "English Stream" program is a result of the success of the Association's "Bachelor Program" of English instruction which was recently revived at the school, founded in 1914 as Xing-ya, with the help of the Yale School of Medicine and alumni. A goal of the program is to enable the next generation of Chinese physicians to have full access to medical advances, foreign training and collegial interactions on a global scale.

The response of the Chinese medical students has been enthusiastic. Not only have they worked hard on their course material, but they have also responded warmly to new teaching styles of their American teachers.

Opportunities exist for qualified physicians and basic scientists to offer units to undergraduate medical school students at Hunan Medical College. Periods of appointment are flexible, varying from four weeks to one semester. Travel is paid for by the Yale-China Association and living expenses are covered by Hunan Medical College. A small stipend for domestic travel in China is offered to those who teach a full semester, but no salary is provided.

For further information, write or call Dr. William C. Summers, Department of Therapeutic Radiology, Yale School of Medicine, P.O. Box 3333, New Haven, CT 06510, (203/785-2980).

MEDICAL STUDENTS RECEIVE AWARDS

Terry Yee, a second year medical student, received the Richard K. Gershon Memorial Summer Student Fellowship of Research in Immunology. As the Gershon Fellow, he spent last summer working on B-Cell Differentiating Factor Receptor in the laboratory of Dr. Kim Bottomly, assistant professor of pathology.

Douglas Black, a fourth year graduate student working toward a Ph.D. degree in molecular biophysics and biochemistry, received a \$22,100 Graduate Fellowship Grant from the General Electric Foundation. Working in the laboratory of Dr. Joan Steitz, professor of molecular biophysics and biochemistry, Mr. Black's research is in the structure and function of small nuclear ribonucleoproteins involved in gene expression.

Student Fellowships *continued from page 17*

immunology and biology at Yale and a leader in the exploration of the immune system. In his original scientific research, he showed that the introduction of an antigen into the body produced not only the immunological attack on the antigen but also the participation of cells that try to prevent or suppress the immune response. His early work concentrated on tumor biology and research into the spread of cancer.

"We deeply appreciate the generous contributions that Murray Gershon, Dick's father, and many other individuals have made to support this student research fellowship," the dean added.

Contributions came from more than 300 donors, including Mr. Gershon of New York City, and Dr. Gershon's widow, Robyn Gershon, who is director of Yale Health Services' Department of Biological Safety. Other gifts were made by Dr. Gershon's family, former students, alumni, faculty, fellow research scientists and friends.

The endowed fellowship carries a stipend of \$10,000, plus a \$1,000 allowance for research support. Any full-time medical student may apply after matriculation, and a special awards committee will select the recipient by March 1.

Class of 1989, *continued from page 21*

The geographical representation of this class, whose average age is 23 and a half, is wide ranging from Puerto Rico to Oregon. Sixty-two come from the East Coast, including 27 from New York state and nine from Connecticut; 17 are from the West Coast (14 from California). Eight students are foreign nationals, and there are 11 black students and four Hispanic Americans.

The Department of Epidemiology and Public Health, which is an accredited school of public health, registered 105 students in its first year class — 79 women and 26 men. They come from 22 countries as well as from Bangladesh, Brazil, Canada, Iran, Japan, Mexico, Morocco, Spain, Switzerland and the United States. As undergraduates, they are concentrated in the sciences. Seventy-three of the students are from medical universities and 32 are from other universities. The class is expected to produce a high percentage of future public health professionals.

Faculty News

Dr. Joseph E. Craft, assistant professor of medicine in the Section of Rheumatology, is one of 20 outstanding young scientists to be named the first Pew Scholars in the Biomedical Sciences by the Pew Memorial Trust of Philadelphia. The scholars were selected because of their outstanding promise in basic science or clinical research that will help advance human health.

"These awards, presented for the first time, will enable accomplished scientists to develop their research further," said **Dr. Robert W. Berliner**, director of the Pew Scholars program and professor emeritus of physiology and medicine at the School of Medicine, where the program is administered. In addition to the Pew Scholars Award, Dr. Craft received a grant from the Lupus Foundation of America, Inc. for his research on "Autoantigens in Drug-induced Lupus."

For research to improve treatment for newborns and infants critically ill with cardiac or pulmonary disease, **Dr. George Lister**, associate professor of pediatrics and anesthesiology, has received a five-year Established Investigator Award from the American Heart Association.

The American Heart Association, South Central Connecticut Chapter, has named **Dr. William W.L. Glenn** "Man of the Year," recognizing his outstanding contributions to the AHA and to cardiology and cardiovascular surgery during the past 40 years. Dr. Glenn, Charles W. Ohse Professor Emeritus and senior research scientist in the Department of Surgery, was honored at a dinner on September 11.

Angela R. Holder has been named president-elect of the American Society of Law and Medicine, a 5,000-member organization of lawyers, physicians, nurses and hospital administrators. Ms. Holder, who is counsel for medicolegal affairs at Yale-New Haven Hospital and clinical professor of pediatrics (law) in the School of Medicine, will become the society's president in July 1986. A noted attorney and educator, she is the author of several books, including "Legal Issues in Pediatrics and Medicine" recently published in the second edition by Yale University Press.

The International Society for Optical Engineering has presented its 1984 Kingslake Award to **Drs. Gene R. Gindi and Arthur F. Gmitro**, assistant professors of diagnostic radiology, for their paper

"Optical Feature Extraction Via the Radon Transform". The paper, which was published in the September-October 1984 issue of *Optical Engineering*, was selected from over 141 highly qualified technical papers.

Dr. Gilbert H. Glaser, professor and chairman of the Department of Neurology, was elected an honorary member of The Academy of Medicine of Yugoslavia (Croatia) last November, at which time he gave an inaugural address in Zagreb on "Modern Dynamic Neurology: the Search for Brain Mechanisms". Last fall, Dr. Glaser was visiting professor of neurology at Oxford University, conducting neurophysiological research at the Department of Experimental Psychology and The Park Hospital (The National Center for Epilepsy in Children).

For research leading to an understanding of how the cerebral cortex processes information, **Dr. Mriganka Sur** has received a grant of \$100,000 from the National Science Foundation. In addition, Dr. Sur, who is assistant professor of neuroanatomy, has been named a Sloan Research Fellow. The Alfred P. Sloan Foundation identifies and supports young scientists who have demonstrated special creative ability in the physical sciences, neuroscience and economics.

Dr. Frank H. Ruddle, professor of biology and human genetics, has been elected to the Institute of Medicine. He is known throughout the world for his pioneering research in mapping specific genes on chromosomes and more recently, for his work in transplanting foreign genes into animal embryos, which opened a broad range of possibilities for future studies of the chemistry of genetics. Dr. Ruddle is a member of the National Academy of Sciences and president of the American Society of Human Genetics.

The American Association of Clinical Chemists presented the Award for Outstanding Contributions to Clinical Chemistry in a Selected Area to **Dr. Peter Jatlow**, professor and chairman of the Department of Laboratory Medicine, in recognition of his research on the measurement and clinical pharmacology of psychotropic and psychotherapeutic drugs, including cocaine and the tricyclic antidepressants. Dr. Jatlow's laboratory was among the first to describe plasma cocaine concentrations after various routes of administration, and the relationship of various concentrations to behavioral changes.

In celebration of the dedication of the Seoul National University Children's Hospital October 17 and 18, **Dr. Donald Cohen** delivered the inaugural lecture, "The Contributions of Clinical Research to the Understanding and Treatment of Childhood Psychopathology". While in Korea, Dr. Cohen, director of the Child Study Center and professor of pediatrics, psychiatry and psychology, gave special lectures at the annual meetings of the Korean Neuropsychiatric Association and the Korean Psychoanalytic Association.

Dr. Perry L. Miller, assistant professor of anesthesiology, was a co-recipient of the Honeywell-Universita degli Studi di Pavia per l'Informatica (HUSPI) Award for research published between 1980 and 1985 in Artificial Intelligence in Medicine. The award, presented at the International Symposium on Artificial Intelligence in Medicine in Pavia, Italy in September, recognizes Dr. Miller's research in developing expert computer systems which critique a physician's plan for patient care.

BOOKS BY FACULTY

"House Officer Guide to ICU Care — The Cardiothoracic Surgical Patient", by John A. Eleftheriades, M.D., *assistant professor of surgery (cardiothoracic)*, and Alexander S. Geha, M.D., *professor of surgery and chief of the Section of Cardiothoracic Surgery*. Aspen Systems Corporation (Rockville, MD), 1985. 207 pp, illus.

"Surgeons at the Bailey. *English Forensic Medicine to 1878*", by Thomas R. Forbes, *E.K. Hunt Professor Emeritus of Anatomy and senior research scholar in the history of medicine*. Yale University Press (New Haven) 1985. 352 pp.

"The Kidney: Physiology and Pathophysiology", Volumes 1 and 2, edited by Donald W. Seldin M.D. and Gerhard Giebisch, M.D., *Sterling Professor of Physiology*. Raven Press (New York) 1985. 2,650 pp, illus.

"The Patient: Biological, Psychological, and Social Dimensions of Medical Practice", second edition, edited by Hoyle Leigh, M.D., *professor of psychiatry*, and Morton F. Reiser, M.D., *professor and chairman, Department of Psychiatry*. Plenum Publishing Corporation (New York) 1985, 457 pp.

WOODROW WILSON LINDENMUTH, M.D.

Dr. Woodrow W. Lindenmuth, clinical professor of surgery, died on August 2, 1985. He had been a member of the Yale School of Medicine faculty since 1956.

Dr. Lindenmuth's work on treatment of bleeding esophageal varices, especially prophylactic portacaval anastomosis, was a major contribution in this complex surgical field.

A graduate of Pennsylvania State University and Jefferson Medical College, Dr. Lindenmuth was a surgical intern at Pennsylvania Hospital and had residency training at Boston City Hospital, Bryn Mawr Hospital and at the E.J. Meyer Memorial Hospital in Buffalo, New York. From 1945 to 1956, he practiced surgery and held appointments at Pennsylvania Hospital and Jefferson Medical College in Philadelphia.

In 1956, he was appointed the first full-time chief of surgery at the Veterans Administration Hospital in West Haven, and as an associate clinical professor of surgery at Yale. He held this post until 1968, and during this time developed an outstanding teaching service. From 1968 to 1973, he served as associate chief of surgery at Yale-New Haven Hospital and director of surgery in the Memorial Unit. He was promoted to clinical professor in 1971.

Dr. Lindenmuth was a member of the American College of Surgeons, the Eastern Surgical Society, the New England Surgical Society and a past member of the Society of Alimentary Surgeons.

Affectionately known by his many friends and associates as "Lindy", he was described by a colleague as "the epitome of the compassionate physician, the thoughtful surgeon, the admired and emulated teacher, the steadfast, honest friend, and the loving, devoted husband and father."

Dr. Lindenmuth is survived by his wife, Virginia, and his two daughters and two grandchildren.

JAMES D. HARDY, Ph.D.

James Daniel Hardy, professor emeritus of physiology and epidemiology and public health, and director emeritus of the John B. Pierce Foundation Laboratory, died at his home in Woodbridge on September 6 at the age of 81.

Dr. Hardy was best known for his work on body temperature and its regulation. Trained as an astrophysicist at John Hopkins University, he applied his knowledge of infrared spectroscopy to the measurement of heat radiation from the skin at the Russell Sage Institute of Pathology at Cornell Medical School. Foreseeing the imminence of war, he enlisted in the U.S. Navy prior to World War II and because of his knowledge of physics, was assigned to the Mine Sweeping School in England. He swept mines from the landing area of Normandy in front of the Allied invasion, and later retired from the Naval Reserve as a Rear Admiral.

Meanwhile, in 1953 he moved to Philadelphia where he simultaneously was research director of the U.S. Naval Air Development Center's Aviation Medical Acceleration Laboratory (human centrifuge) at Johnsville, Pennsylvania, and was in charge of graduate studies in physiology at the University of Pennsylvania until 1961. By simulation of the forces of exit and reentry, Dr. Hardy trained the Apollo astronauts to fly the spacecraft using the human centrifuge.

In 1961, Dr. Hardy assumed directorship of the John B. Pierce Foundation Laboratory in New Haven, and was appointed professor of physiology and epidemiology and public health at Yale, posts he held until 1974 and 1973, respectively. During that time, he developed an active program of environmental physiology and health science, supported by the Pierce Foundation and government agencies.

A native of Georgetown, Texas, Dr. Hardy received an A.B. degree, *magna cum laude* in 1924, and an M.A. degree in 1925, both from the University of Mississippi at Oxford, and a Ph.D. degree in 1930 from the Johns Hopkins University. A member of Phi Beta Kappa and Sigma Xi, he was elected to the National Academy of Sciences in 1970. A fellow of the American Academy of Arts and Sciences, he had been awarded honorary doctor of science degrees by the Kansas City College of Osteopathy and Surgery and from Southwestern University, and a *doctor honoris causa* by the University of Lyon's Faculty of Medicine and Pharmacy. A.B.D.B.

NEA MAE NORTON, M.S.S.

Nea Mae Norton, clinical professor emeritus of psychiatry (social work), died on April 27, 1985 at the age of 78. She had joined the faculty of the Department of Psychiatry in 1947 at the invitation of Dr. Eugen Kahn and rose through the academic ranks from assistant professor to professor, the only such appointment and honor awarded a social worker at Yale.

During her more than 20 years of full-time activity, Ms. Norton contributed to the development and expansion of the department from a handful of full-time faculty members to well over 100. This development entailed the inauguration of three major services in addition to an intensive reorganization of the Yale Psychiatric Institute, the original clinical base of the department. Ms. Norton was involved in all of these innovative enterprises, recruiting the staff and teaching, monitoring and supervising them throughout their tenures, in addition to teaching medical students, residents and other graduate trainees in psychiatric social work and psychology. She was a highly valued colleague who participated not only critically in these developments and the day-to-day services, but also in many research projects, initially with Drs. F.C. Redlich and Richard Newman on interviewing, and later in family research and then, in various service analyses.

In recognition of her final promotion an array of accolades was obtained from many leaders in psychiatry and social work throughout the country; this dossier reads like a "Who's Who" of Yale graduates who have become leaders in academic psychiatry and mental health services. After her retirement, she maintained an important presence in the academic and personal lives of members of the department until the past two years, when she was incapacitated by severe arthritis and complications. Her impact will also be felt by future generations because her leadership and concepts of social work participation and contribution to the care of the mentally ill remain guideposts for the future. S.F.

ASSOCIATION OF YALE ALUMNI IN MEDICINE HOLDS ANNUAL BUSINESS MEETING

As part of an outstanding Alumni Weekend, the annual business meeting of the Association was held on Saturday, June 8, with Dr. Nicholas Spinelli, president, as chairman.

Following introductory remarks by Dr. Spinelli, Dr. Lawrence Pickett read obituary citations from the Association for two distinguished alumni: Dr. Vernon W. Lippard ('29), who served as dean of the school from 1952 to 1967, and Dr. Courtney C. Bishop ('30), who was chief of staff at Yale-New Haven Hospital from 1960 to 1973.

After recognition of a number of senior alumni present from classes of 1921 through 1929 and members of the 55th reunion class of 1930, Dr. Spinelli presented special recognition awards to members of the 50th reunion class of 1935 and welcomed the other five-year reunion classes of 1940 through 1980.

Dean Leon E. Rosenberg reported on new appointments to the faculty and to the administration of the school. It was with special pleasure that he noted Dr. Spinelli had been appointed Director of Alumni Affairs. He also mentioned that search committees are looking for chairmen for the Departments of Dermatology, Neurology, Psychiatry and Surgery. The dean then briefly described new construction currently underway or planned. These projects include the Magnetic Resonance Imaging Center, a new building for faculty ambulatory practice, expansion of the Medical Library, a new Yale Psychiatric Institute, the Eye Center for the Department of Ophthalmology and Visual Science, and a proposed

building for the Center for Molecular Medicine.

Following the dean's report, the Nominating Committee recommendations were presented by Dr. Gilbert Hogan and the following were elected by vote of the members present: President, Dwight Miller ('56); Vice President, Thomas Kugelman ('60); Executive Committee (each for a term of two years), Joseph F.J. Curi ('64), James Q. Haralambie ('35), Marie-Louise Johnson ('56), Patricia E. Wanning ('40), Muriel D. Wolf ('59). In addition, the following were elected as representatives to the Association of Yale Alumni (AYA), each for a three-year term: Edith M. Jurka ('44), Mohandas M. Kini ('65), and Warren D. Widmann ('61).

Following the elections, Dr. Spinelli congratulated and cordially welcomed those newly elected. He also expressed appreciation and thanks to those who were leaving the Executive Committee; Susan S. Addiss (M.P.H. '69), J. Roswell Gallagher ('30), Thomas P. Kugelman ('60), and Richard D. Otis ('49). Appreciation was also expressed to Marie-Louise Johnson and Frederick North, Jr., ('56) for their service as representatives to the AYA during the past three years.

Dr. Dwight Miller, chairman of the Association's Awards Committee presented Distinguished Alumni Awards — Yale chairs with inscribed plaques — to Dr. Samuel Kushlan and Dr. J. Roswell Gallagher. Dr. Lowell Goodman, chairman of the Yale Medical School Alumni Fund, then gave a most encouraging report which noted that over \$300,000 had been contributed to the Fund, and that the 1984-85 goal of \$325,000 would be reached by June 30.

At the conclusion of the meeting, Dean Rosenberg presented Dr. Spinelli with a Distinguished Service Recognition Award for his four years as president of the Association.

REUNION NOTES

1925

60th Reunion

by Alice A.S. Whittier

The 60th reunion of the class of 1925 was unfortunately represented by only one member, **Alice A.S. Whittier**, class agent and class secretary.

Waldo Desmond and his wife had planned to attend, but changed their plans. He expected to have an operation the following week.

Howard Wood was honored recently at his 90th birthday and limits his travelling. Two members are in Florida and one is in Georgia. The other members did not supply news.

1930

55th Reunion

by Paul Lavietes

Of 23 survivors of our class, five came to New Haven with their spouses for Reunion Weekend and remained for dinner at the Graduates Club on Saturday. There were witty and informative talks by the new dean and the president of the Alumni Association during the annual meeting and also at the dinner.

Seminars by distinguished faculty members in the forenoon Saturday were well received. There was much stimulating interchange between speakers and alumni at the annual meeting.

Knox Finley and his wife Mary Lee came farthest from San Francisco, where he is still active as a neurologist and teacher. **Ros Gallagher**, who has served as chairperson of the committee for alumni bequests and endowments for years, has a home in New Haven and a vacation home in Nova Scotia, where he and his wife, Connie, are going for the summer.

Jim Hart and I are almost completely retired in New Haven and **Moe Lischner** — in Bloomfield Connecticut. We are all fairly fit for our years, as are our wives, Peggy, Ruth and Frieda, respectively. It was good to join with them and chat about old times and recent changes.

Leonard Greenberg, who taught us bacteriology in our preclinical years and then went on to get an M.D. degree with us, is retired in Long Boat Key, Florida. He informed me that he was 92 and his wife, 91, and that they could not travel to the reunion, much as he would like to do so.

The family of the late **Morris Krosnick**, who was an associate clinical professor of pediatrics at Yale, has established an annual award to be given to the member of the Yale-New Haven Hospital Pedia-

1986

ALUMNI WEEKEND

JUNE 6 and 7

**For entertainment, education and a bit of nostalgia,
plan now to attend!**

tries House Staff who exemplifies the "caring, compassionate, and dedicated pediatrician." This year's recipient was Dr. Donald Schwarz.

1935

50th Reunion

by Samuel Kushlan

Eight members of the class returned for our 50th reunion. All were accompanied by their lovely wives except for **James Haralambie**, whose devoted wife died recently after a long illness. We appreciated his coming so that we could express our appreciation for his decades of devoted service as our class agent. Jim retired in 1978 to Southbury, Connecticut, after a notable career in pediatrics, retiring as clinical professor emeritus at Cornell, where he established the first pediatric neurology clinic.

Walt Barney retired in 1982 after years of important service in and to Milford (Connecticut) Hospital, where he played a major role in its development and growth as chief of staff for ten years and chief of anesthesia for 20 years.

Sawnie Gaston retired this year after an outstanding career in orthopedic and trauma surgery, fields in which he received national recognition, with most of his professional life spent at Columbia-Presbyterian in New York, retiring as associate professor of clinical orthopedics. More recently, he was actively involved in the development of electromagnetic stimulation treatment of fracture non-union.

Howard "Jack" Horner retired in 1975 after an unusual and rewarding career, first as a medical missionary in Zaire (then the Belgian Congo) from 1939 to 1954; while there he became a fellow of the American College of Surgeons in 1949, fulfilling the requirements under difficult conditions. He then returned to California to practice and to retire.

Sam Kushlan retired in 1982 as associate physician-in-chief of Yale-New Haven Hospital, where he continues to be active as consultant to the chief-of-staff and as clinical professor of medicine. He continues to serve Yale Alumni in Medicine as co-chairman of the Bequests and Endowment Program, chairman of the Former House Staff Alumni Fund Program, and alumni representative on the Medical School Council.

Norman Rindge retired after an outstanding lifetime of service to the populace of the Clinton-Madison (CT) area as a family doctor *par excellence* in the tradition of that great calling. When he retired, I was present at the heartwarming testimonial to him by towns-

people who turned out in the hundreds to honor him; it was common for several generations of a family to have been his devoted patients and to pay tribute to him on that memorable day.

Clark Searle is about to retire after an eminent career in pediatrics. In addition to having been pediatrician-in-chief of the Maple Knoll Hospital in Wyoming, Ohio, he was also president for 40 years of the Wyoming Medical Center, which he organized.

Walter Thompson retired in 1975 to summer in Old Lyme, Connecticut, and winter in Grenada, after a long and distinguished career in orthopedics in New York City. He had been chairman of orthopedics at New York University and Bellevue Hospital from 1950 to 1975, having previously been chief-of-orthopedics at Walter Reed Hospital in Washington, D.C.

We were the guests of honor at a beautiful and sumptuous banquet at the Graduates Club, tendered us by the School of Medicine. Present also were several members of the Class of 1930, representatives of other classes, and members of the Executive Committee of the Alumni Association. Former Dean Robert Berliner and his wife were present, as was Deputy Dean Arthur Ebbert, Jr. **Larry Pickett '44**, former associate dean, was a great toastmaster. Dean Leon Rosenberg and his wife were present and he spoke graciously about our class. **Nick Spinelli '44**, retiring president of our Alumni Association and now director of alumni affairs, greeted us officially and warmly. Sawnie Gaston and I reminisced briefly about our class, as I presented each of them to the assembly. All in all, a very nice and heartwarming evening.

Several members of the class, unable to attend, sent warm greetings: **George Carden**, **Edward Carvey**, **Edward Falsey**, **Howard Groskloss**, **Mildred Hartshorn January**, **Dana Howe**, **Bascom Johnson**, **Graham Newbury**, **John Preece**, **Edmond Sinclair**, and **Samuel Zelman**. **Don Morris**, also unable to attend, was joined by his wife in making a most generous endowment gift to our Alumni Fund as an expression of their devotion to and happy memories of our School and our Class.

1940

45th Reunion

by Donald Johnson

The 45th reunion was a thoroughly enjoyable time. This report is concerned only with those in the Class of 1940 who returned for this event. **Ron** and **Betty**

Beckett came down from Bloomfield, CT; both look exceedingly well. **Betty** says **Ron** is retired, and she is sure of this since he gets home at 8 o'clock rather than later. What a pleasant surprise to see **Phil Breznia** after 45 years; both he and his wife are revelling in diminished medical activity. **Wy** and **Biddy Dean** stayed with **Jim** and **Izzy Ferguson**. **Wy** looks the same as he did five years ago, and **Jim** is still running, playing tennis and generally enjoying retirement. **Gene Fitzpatrick** and his wife came to the class dinner at the Quinnipiack Club. He has retired from active practice and only sees patients on a limited consultation basis. **Jack** and **Rosemary Haley** came to the festivities. **Jack** had a coronary by-pass last year, following a "mild" cardiac episode and seems to have tolerated it well. Other by-pass recipients present were **Champ** and **Mary Louise Taylor** and **Joe** and **Nancy Sokol**. **Champ** is completely retired and spends a good part of the year in Virginia where they have a retreat. **Joe Sokol** is still very active at Duke with his international chronic myeloid leukemia project. **Joe** and **Nancy** have one son back in West Africa and the second in Dallas, both in medicine. **Hank** and **Ellen Humphrey** were down from Ithaca; **Hank** is about ready for retirement in December. **Eddy** and **Marty Martin**, **Jack** and **Eunie Ells**, **Joe** and **Eileen Zigarelli** were all there and all looking so very well.

Helen (Haury) Woods and husband **Dick**, came all the way from Corpus Christi, Texas, having visited along the way with friends and children. **Pat (Emerson) Wanning**, still busy with her biofeedback interests, was present as was **Lee Sannella**, who came from far-off California. **Lee** is still active with his projects, particularly those related to ecologic matters. Your obedient secretary, still very busy with the Red Cross as volunteer chairman of the board of directors, Blood Services, Northeast Region, can report that everyone seemed to enjoy returning to New Haven after these many years. All expressed the hope that at the next reunion — our 50th — we will have an extraordinary class turnout and a gala program planned. So you scientists in the class, you historians, get ready for a class of 1940 seminar program and write the trip off your taxes!

I cannot close this column with out a plea for information for future and more meaty columns, and a word of regret that many, if not all, members of the class of 1940 are painfully modest about speaking of themselves, their accomplishments, their families, and their lives in general.

1945

40th Reunion

by Frederic Blodgett

The members of the class of 1945 held a most successful 40th reunion, thanks to the preplanning of **Dick Breck**, **Al Atwood**, and the assistance of the School of Medicine's Alumni Office, Nick Spinelli ('44) and Connie Tolliver.

The program included scientific and not so scientific experiences and recollections. Dick Breck reviewed the war years at 333 Cedar Street in a most comprehensive manner with many warm recollections of our relation to the war effort. **James Mason** (Reeves) told us of medical care in Sumatra, while **George Naumberg** described wine making along the Hudson River and told us that he has developed a top-notch line of choice wines. **Ed Daniels** told us of some highly amusing and inspiring experiences during his four decades of psychiatry. Though many of the class are ready to consider and have even made the big step into retirement, Ed is convinced that we all have too much to teach the next generation and that retirement is not yet justifiable. **Dick Peters** shared with us his insights and concerns regarding the rapid changes in delivery of medical care.

The class has produced a wide range of investigators, clinicians, directors, deans, chairmen, administrators in all medical specialties, now widely spread over the United States and the rest of the world. Not only have we been successful professionally, but of the 34 classmates who responded to our cards, we now know that 34 of the class have produced 134 children, 92 grandchildren and look forward to increasing the latter figure. For a supposedly "forgotten wartime class", it looks as though a great deal has been accomplished with more to come.

The development of the School has been impressive and gives us confidence in the future of the institution and her graduates, and merits our continued support.

1950

35th Reunion

by Lyal Asay and William Bucher

"I'm sold! Sign me up for the 40th right now!" That's what **Margaret Lyman** said at the end of the 35th reunion of the class of 1950 Yale School of Medicine. She's attended five schools and never attended a reunion before!

All who didn't make it missed a great affair, but you were all sorely missed. After a day of lectures and meetings sponsored by the School of Medicine and interspersed with a marvelous compli-

mentary festive luncheon, 1950 gathered for cocktails and dinner at Mory's. Eighteen class members made it (34, including widows, sons and spouses). **Tom Ferraro** couldn't make it but he sent his handsome, charming son to take notes on us all. His son is an American history graduate student at Yale. Ruth Quinn **Stewart**, **Bob's** widow, brought Jeoffrey Quinn, their son, a charming young man who has been with Associated Press in Hartford, but is about to take a breather and write a book on the great conservationists of America. He must have grown tired of us telling him how much he resembled the Bob we knew "in the good old days", but he maintained that same warm, open interest in people that so characterized his father.

After a fabulous dinner, class secretary **Lyal Asay** (ageless, handsome and witty!) conducted the class meeting. We elected **Bill Delia** to hold us all together for the next five years. So expect to hear from him and send him all news, complaints and inspired ideas!

We talked lovingly of our members who are deceased. Jean **Smith**, **Martin's** widow, read us a wonderful memorial tribute which had been read at the service for him in Gloversville, N.Y., and told us of a new hospital wing named in his honor. Kent told us of his last visit with **Pat Dowling** — a beloved general doctor in the waterfront area of Seattle; and Dave **Frucht** told us about the great dedication of **Marina** in her work as an ophthalmologist. He attributes the tremendous success of his own daughter in overcoming a congenital eye problem to the great skill and dedication of Marina. This daughter, against the early predictions of all other physicians, recently graduated from Yale College. Bill Delia spoke lovingly of his friend **Fred "Bones" Vultee**, and C.G. **Gunn** told of the death of **Bill Newton**, who was a very respected and beloved surgeon and teacher at George Washington University Medical School.

We read letters sent by **Milton** and **Betty Lesser**, still practicing cardiology in Miami Beach; **Butch** and **Peg Felmly**, who were attending the graduation of their son at Jefferson Medical College; **Bob Sturman**, who has given up neurosurgery in Waterbury for a more relaxed insurance consultant job in Detroit. **Cynia Shimm** is still in psychiatry in Durham, N.C. — affiliated with Duke. One son is in radiation therapy at University of Arizona Medical School; the other is an architect.

O.J. Miller writes that he has no thought of retiring. He's just started a whole new career as head of Molecular

Biology at Wayne State University. **Danny** and **Anita Fine** are going to retire to half-time medicine, but true to a lifelong commitment to making the world a better place for us all, they are planning to work the other half of their time on advancing world nuclear disarmament! **Jan Lindner** and **John Strauss** couldn't make it either, but they sent best wishes and completed the retirement questionnaire (the results of which were included in the newsletter which has already been sent to all members of the class). Personal greetings were brought to us by the **Buchers** from **Al Davis** — still in internal medicine at Long Beach-VA Hospital and University of California at Irvine Medical School; Charlie and Peg Nugent ('51), still at University of Arizona and Tucson VA Hospital, and Larry Freedman ('51), who has returned from Switzerland, lives five houses away from the Buchers, and is at UCLA and West Los Angeles VA Hospital. **Russ Anderson** had to drop out at the last minute. He has remarried since the death of his wife, Louise. Many of you may bump into him as he travels around the country with Joan for the Joint Commission on Accreditation of Hospitals.

Then the highlight of the evening was the panel on retirement arranged by Bill Bucher. To capture the hysterical report of **Bob McSherry** would be impossible! You had to be there or get **Jane Baldwin's** taped copy. He is retired and he mingled computer jargonese with philosophical observations which kept us laughing so hard I forgot to take notes! Bill Delia on the other end of the spectrum, plans never to retire, but "to die in the saddle", because he loves money too much, and he, too, was his usual witty self. By the way, he looks like the same young happy-go-lucky kid he did 35 years ago. **Archie Golden** and **Naomi** have sold their home in Wethersfield, closed out the family practice (30 years of service) and have built a new home on the Cape where they were to move this summer. He'll work summers in an outpatient clinic there. He told us of a wonderful goodbye party where patients of 30 years came to pay tribute to his many years of service as their family doctor. Ida Bucher reports that she's upset that Bill's cutting back to half-time in July because she never got the opportunity to play that mythical role, created in the minds of the lay American public, "the rich doctor's wife", that person of elegance, style and unending partying!

The class was honored to have as its guests, Dr. Thomas Forbes and his wife. He spoke warmly of the early days as our anatomy teacher and of his assistant

deanship. He surprised and flattered some by remembering all kinds of individual things about them. He looks wonderful, still has an office at the medical school and writes extensively on the history of forensic medicine. Subsequent to the reunion we received a warm note of appreciation for the evening and recalling many happy memories. He stated Yale can be proud of the doctors she graduates and the spouses they choose. Prizes for the youngest looking went to svelte **Marilyn Sugarman Kritchman**, director of anesthesiology residents at NYU, and **Yvette Francis McBarnette**, mother of six, who is involved in sickle cell anemia. Starting out as a pediatrician, she's moved to internal medicine as her patient population aged.

The evening ended with a pitch by **Sid Lee** for the upcoming endowment drive for the medical school. It is important that all of us help in the drive to keep Yale School of Medicine on the cutting edge of research, both pure and clinical, and to maintain the excellence of the private university, where freedom of inquiry is a prized value. Remember, many large corporate donors give in proportion to the contribution of the alumni. So give a little — give a lot — whatever your pocketbook allows — but do give when you're asked to participate in the drive. Sid is now, by the way, in a new job as executive director of the Milbank Fund in New York City. (Attention — all grant applicants!!) He is also a member of the Yale Development Fund Committee seeking to increase the medical school endowment.

Present at the reunion, which included Friday night dancing and a hilarious Sunday brunch were: **John LeRoy**, **Bill Delia**, **Mrs. Martin Smith (Jean)**, **Tony Tyler**, **Lyal** and **Bonnie Asay**, **Kent** and **Barbara Ellis**, **Marilyn Sugarman Kritchman**, **Archie** and **Naomi Golden**, **Ida** and **Bill Bucher**, **Sylvia Levine Axelrod** and **Bob Axelrod**, **Jane Baldwin Shumway**, **Ruth Quinn** and **Jeffrey Quinn**, **Dave** and **Claire Frucht**, **Gloria Sturman**, **Sid Lee**, **Yvette Francis McBarnette** and **Mac**, **Mag Lyman**, **CG** and **Doris Gunn**, **Sheila** and **Harry McClelland**.

Harry McClelland thinks we should plan a mini-interim reunion medical meeting (tax deductible you know!) at the wonderful resort in two or three weeks. The Buchers always attend "Yale at Yosemite" in first of May at Yosemite Lodge, run by Yale Western Office and the Natural Science Experts from Yosemite. If anyone would like to come (quite inexpensive) do let us know. Hikes are arranged to fit each person's capabilities and there's square

dancing and barbecues. Any other suggestions? **Mag Lyman** volunteered her farm for a picnic symposium too, and some suggested an Elder hostel program. Send **Bill Delia** your ideas.

Love and best wishes for five years of health, wealth and happiness from the Buchers and Asays.

1955

30th Reunion

by William Lattanzi

Twenty-five of our classmates returned to New Haven for this reunion. I have been told by the director of Alumni Affairs, Dr. Nicholas Spinelli ('44), that the class of '55 once again has gathered more returning alumni than any other class. From the comments of those who returned, it seemed to have been a worthwhile experience and one that gave all of us great enjoyment.

Attending all or part of the weekend's activities were the following: **Milt Corn**, **Kahler Hench**, **Dorothy Leib**, **Alan Stone**, **John Hodge**, and **Frank Kenney**. The following alumni returned with their wives (or in Gregg Peterson's case, with his daughter): **Joe McGuire**, **Jack Landau**, **Nick Coassin**, **Jim Nolan**, **Joe Camilleri**, **Greg Peterson**, **Russ Miller**, **Shep Nuland**, **Bob Kramer**, **Jerry Bobruff**, **Bill Lattanzi**, **Padraic Burns**, **Paul Gonick**, **Bob Reich**, **Irwin Braverman**, **Bob Peters**, **Phil Smith**, **Ed Brennan**, **Paul Calabresi**.

Activities began on Friday afternoon with a talk by Dr. Arnold Relman, editor of the *New England Journal of Medicine*. His topic concerned the impact of for-profit hospitals on our present medical system. After his talk, we spent an evening at the home of the Lattanzi's with cocktails and dinner. This was the first meeting of some of our classmates in the past 30 years. As you can imagine, it was an exciting evening. Some of our classmates had not been to any reunion since we graduated and it became extremely pleasurable for those of us who have attended all of these to be able to see them again. We caught up on everyone's activities and what has taken place in their lives since graduation. A sad note was the demise of **Ed Coppola** during the past five years.

After the activities at Yale on Saturday, June 8th, we all gathered at the Oak Lane Country Club for dinner. During the course of the dinner, **Bob Fekety** called from Michigan and spoke to everyone who was in attendance. We all felt that was a very warm and welcome addition to the evening's entertainment. At the dinner, a number of our class rose

to the occasion and talked about their lives and remembrances of things past.

On Sunday, Jack Landau had invited those who could stay in town to a brunch at his home. Although few were able to attend, it was again, most enjoyable.

The reunion, I think, ended on a very high note of good spirits, and genuine fondness for one another.

We had sent a questionnaire to our classmates concerning their attitudes and feelings towards medicine and the view of the Yale School of Medicine. Although not enough questionnaires were returned for a reliable sample, practically unanimous opinions were that:

1. The Yale system was thought of as positive and worthy of support.

2. Most of the class felt that their lives were very satisfying, but at the same time, did not feel that the future physicians will find that to be so. This was reflected in the fact that most would not like to see their children enter medicine at this time.

3. Most of the class engage in sports activity of some sort, but do not feel they have enough time for relaxation.

4. Many of the class have received distinguished awards and have very impressive bibliographies.

If energy remains, perhaps in the next five years a more extensive questionnaire with followup could be done to achieve a large enough sample that could be viewed upon as reliable.

I would like to thank the committee for its efforts and especially Jack Landau for arranging the evening at the Oak Lane Country Club.

We all look forward to the 35th.

Milton Corn has been appointed dean at the Georgetown University School of Medicine, effective August 1.

1960

25th Reunion

by Jerrold Post

The 25th reunion of the class of 1960 was a very special occasion for all — awash with warm memories and good humor. The class sponsored a reunion seminar on "The Brain, The Mind, and Behavior." Two of the class' outstanding neurobiologists, **Chuck Stevens** and **Alan Finkelstein**, presented fascinating discussions of the advances in understanding the biological basis of mind. Setting the stage for the rest of the weekend, special attention was given to the neurochemical basis of the seven deadly sins, particularly gluttony, lust and sloth. At a more

microscopic level, this was followed by a talk on the social psychology of terrorism by **Jerry Post**. **Rick Kindwall** wrapped up with a fascinating discussion of his own esoteric specialty — hyperbaric medicine.

Having made a ritual bow to education, the serious concerns of the weekend began. After a pleasant reception for all returning alumni, hosted by Dean Rosenberg, the class repaired to a delightful informal evening at **Vic** and **Laura Altshul's** splendid rambling home in New Haven, for a buffet hosted by **Vic**, **Tom Kugelman** and **Jerry Post**. The next morning brought a series of stimulating roundtables, including a very provocative discussion of the ethical challenges facing contemporary medicine. Forty-four strong descended on Mory's that evening for a class dinner, straining both the capacity and the patience of that venerable institution. One of the highlights was a raucous photo session observed with bemusement by one of New Haven's street people. After a fine dinner of prime rib and stuffed shrimp, we shared personal and professional experiences, read the letters of classmates unable to attend, and caught up on news of other members of the class. During this portion of the evening, the droll humor of **Bob Wallach** and **Al Ross** had the class in a state of hilarity. The evening ended with the maitre d' asking us to leave.

The rich collection of news and scurrilous gossip collected during the evening and from class letters will be collated in a newsletter which will be sent to all this summer.

In attendance were: **Festus Adebonojo**, **Vic** and **Laura Altshul**, **Ormond Brody**, **Don** and **Nancy Buebendorf**, **Gerry** and **Donna Cimino**, **Frank** and **Ann Cogliano**, **Jon** and **Carol Courtney**, **Jim** and **Kitty Eusterman**, **Alan** and **Joan Finkelstein**, **Jim Gilman**, **Roland** and **Marguerite Ingram**, **Dan** and **Carolyn Jones**, **Rick** and **Marilyn Kindwall**, **Sue Kleeman**, **Tom** and **Alice Kugelman**, **Ed** and **Jean Lang**, **Bob Marcus**, **Don** and **Pat Miller**, **Al** and **Barbara Newcomb**, **Nick** and **Veda Nichols** and their daughter, **Carol**, **Fred** and **Ruth Palace**, **Jerry** and **Carolyn Post**, **Nancy Rolick Powell** and her husband, **Bill**, **Buzz** and **Pat Robinson**, **Al Ross**, **Chuck Stevens**, **Bob Wallach**, and **May Woo Wang** and her husband, **George**.

On May 31, **Jack Barchas** presented the John P. Flynn Memorial Lecture at Yale. Dr. Barchas, who is Nancy Friend Pritzker Professor and Associate Chairman of Psychiatry at Stanford University,

spoke on "The Search for Neuroregulators: Neuropeptides and Behavior."

1965

20th Reunion

No report received

1970

15th Reunion

by Robert Rosa

The class of 1970 gathered for its reunion at the fashionable Quinnipiack Club in New Haven where dinner arrangements were made by **Scott Peterson**. The evening was very enjoyable and there was ample opportunity for everyone to talk and describe their recent activities. Those present, in most cases accompanied by their spouses, included **Bruce Reitz**, who recently moved from the rolling hills of Palo Alto to become professor of surgery and chief of cardiovascular surgery at Johns Hopkins. By moving, Bruce has brought heart-lung transplantation to the East Coast. **Ray Tripp** is still in Massachusetts and is chief of pediatrics at the Emerson Hospital in Concord. **Lenny Milstone** remains at Yale on the full-time staff in dermatology, while **Ann Curtis**, just back from sabbatical in England with her husband **Jim Fischer**, is now head of chest radiology at Yale. Also present and still in Connecticut, but now on the anesthesia staff at St. Vincent's Hospital in Bridgeport, was **Jonathan Katz**. **John Blanton** is still in New Haven and remains a great pediatrician and knitter. **Phil Steeves** journeyed down from Back Bay for the evening and revealed that he remains active in radiology on the North Shore of Massachusetts. Farther up the North Shore in Newburyport, **Joel Rubenstein** is practicing psychiatry while west of Boston **Bruce Wenger** is engaged in research in thermal physiology. **Paul Hess** has an active practice in radiology in Rhode Island. **Gerry Kennealey**, who finally shaved his moustache because, "I no longer need to try to look older," is busily engaged in the practice of oncology in the Waterbury area, while **Scott Peterson** remains very busy in the practice of ophthalmology in Waterbury, where he has established a regional eye center. Your class secretary, **Bob Rosa**, remains in Boston, where he directs the Clinical Research Center at Beth Israel Hospital and dabbles in nephrology.

Letters were received from classmates who could not attend and they reveal that **Joellen Werne** is actively practicing psychiatry half-time and raising a family full-time; **Dan Dederick** is on the full-

time anesthesia staff at Brigham and Women's Hospital; **Tom Singer** (writing on stationary from Marrakech) is associate professor of surgery at Bellevue in New York; **Ken Khoury** is at UCSD and recently has taken up jazz dancing and ballet (if you can believe that!); **Bob Litman** is in family practice and is also an allergist in Ogdensburg, N.Y., where he runs a TV program and has recently published a novel; and **Jonathan Ecker** got a haircut and is now practicing psychiatry in the Syracuse area.

1975

10th Reunion

by Mary Jane Minkin

To summarize our reunion — we had a great time — what else? Our two major events were a get-together at my house Friday evening, and a more formal dinner at the Colony Inn restaurant on Saturday. It was a terrific occasion for the large local contingent to meet — as we never do — and see many out-of-towners. We also got lots of letters from classmates to read (and make nasty comments) — well, you can't defend yourself if not there.

Local attendees included: **Andy Pachner** and wife, **Dan Passeri** and wife, **Sal Romano** and wife, **Henry Cabin** and wife, **Florence Comite** ('76) and sister-in-law, **Harriet Comite** ('77), **Stan Gale** and wife, and honorary classmate, **Mark Ruchman** (officially '76) and wife. Longest distance guests were: **Haig Donabedian**, still voted class' funniest member, **Jim Grabman**, **Hank Willner** and **Fred Sherman**, who did manage a few rounds of golf, **Bob Sandler** and wife, **Jamie Robertson**, **Rob Malacoff** (or should Boston be considered local?) and of course, your local arranger, me.

We all decided none of us has changed — and we really hadn't — and enjoyed sharing our practice experiences, and also reflected how medicine has changed so much in ten brief years. Let's see how much more it will change in the next 15, and plan even better attendance at our 25th.

A gossip sheet is in the printing stage, so if you have any class news, please send it. Thanks.

1980

5th Reunion

No report received

Other Class Notes

1936

George Hahn has received the Sigma Chi Fraternity's highest honor for outstanding achievements in his professional field. The 1984-85 Significant Sig Award was presented to Dr. Hahn at a Washington, D.C., Sigma Chi Alumni Chapter meeting on June 13, for his medical research including carbon dioxide laser beam surgery and other cancer treatments as professor of gynecology and obstetrics at Thomas Jefferson University in Philadelphia; and for his outstanding achievements in the control of cancer for which he received the National Division Gold Medal Award of the American Cancer Society. Dr. Hahn was recognized for his leadership in the field; as an active member of the Medical Board of Project HOPE; as governor of the American College of Surgeons; as vice president of the American Gynecological and Obstetrical Society; and as an officer of many other medical societies and associations.

1952

News of **Willard and Siegrid Centerwall** has been received. In March, while in India during a five-nation lecture tour through Asia, Dr. Centerwall was presented the first J.B.S. Haldane Oration Medal from the Society of Bionaturalists at Bhopal University. The medal honors John Burden Sanderson Haldane (1892-1964), one of the world's pioneers in the field of human genetics, who emigrated from England in 1957 to spend the rest of his life in India. The following citation accompanied the award: "The President and Life Servers of the Society record with privilege, the outstanding contributions of Professor Willard R. Centerwall in human genetics and animal cytogenetics extending over three decades. His work on phenylketonuria and extension of genetic services for the prevention of mental retardation are more than exemplary."

In New Delhi, Dr. Centerwall was chairman of one of the scientific sessions of the Seventh World Congress of the International Association for the Scientific Study of Mental Deficiency. At Velur, South India, he lectured at Christian Medical College, where he and his wife spent 100 years as medical missionaries.

During this time, he started his genetic studies in India and has continued them during periodic return visits. Dr. Centerwall retired in February as professor of pediatrics and genetics and director of Medical Genetic Services at the University of California, Davis.

In May, Dr. Siegrid Centerwall was awarded an honorary Doctor of Humane Letters degree from her alma mater, Mount Holyoke College, for a lifetime of outstanding professional and humanitarian achievements.

From 1961 through 1966 in India, where she went with her husband and six young children to work as a missionary, she engaged in public health work. On her return to this country, her community service included developing a program for tutoring disadvantaged college students, and she has taken active interest in affirmative action, women's rights, world hunger relief and peace between nations. Professionally, she has worked in public health clinics, headed maternal and child health services in San Bernardino County in Southern California and has served on the faculty of the Loma Linda University School of Health.

Dr. Centerwall retired this year from the California Department of Health Services, where she was chief of the Child Health and Disability Prevention Branch. During the last eight and a half years, she has headed maternal, adolescent and child health services and under her leadership, coordinated child health care systems were developed in all the counties in California.

In June, Drs. Centerwall, on personal invitation from Norway, participated in the dedication of a memorial to the Norwegian physician and biochemist, Dr. Asbjorn Folling, who 50 years ago discovered phenylketonuria, the hereditary disease known in the U.S. as PKU. The Centerwalls were honored for their achievements in the 1950's in the U.S. with the dietary treatment and the first early infancy testing programs for PKU.

In retirement, the Centerwalls plan to write, lecture and consult as well as to expand the program of the non-profit organization, Light for the Way, Inc., which they founded to help families whose children have serious medical and developmental problems.

IN MEMORIAM

Leo J. Hahn	'18 M.D.
August 14, 1985	
Daniel M. Thron, M.D.	'20 ex med
February 19, 1985	
Morris Slater	'24 M.D.
July 2, 1985	
Stanley K. Livingston, M.D.	'25 ex med
April 25, 1984	
Eugene C. Beck	'26 M.D.
June 13, 1985	
Sheldon A. Payne	'31 M.D.
May 29, 1985	
Rebecca L. Proctor	'31 M.D.
April 10, 1985	
Herbert F. Hirsche	'31 M.P.H.
September 20, 1985	
Thomas E. Farthing	'32 M.D.
May 7, 1985	
Edward T. O'Donnell	'34 M.D.
June 23, 1985	
Thomas F. Hersey, M.D.	'34 ex med
July 9, 1985	
Thomas H. Burford	'36 M.D.
May 17, 1977	
Lloyd R. Studebaker, M.D.	'39 ex P.H.
May 12, 1984	
Robert A. Hettig	'40 HS
August 8, 1984	
Meyer J. Plishner	'40 M.P.H.
date unknown	
Francis P. Vose	'42 M.D.
June 5, 1985	
Nicholas A. Tierney	'44 HS
November 12, 1984	
Mathew W. Kobak	47 HS
January 16, 1985	
Naomi Bitz Markthaler	'53 M.P.H.
March 31, 1985	
William A. O'Shea	'55 HS
June 25, 1984	
Jane A. Wilkinson	'57 HS
April 9, 1985	
Lois W. Tice	'59 M.D.
August 2, 1985	
Herbert Rubenstein	'61 M.P.H.
February 24, 1984	
Sister Mary Lucina Wierzbicki	
July 23, 1985	'71 M.P.H.
Jacques Lagier	'76 HS
December 25, 1984	

ERRATUM

Based on incorrect information received by the Editorial Office of *Yale Medicine*, the "In Memoriam" listing which appeared in the Spring issue included the name of Dr. Joseph H. Zelson, '69 HS. It has since been learned that it was Dr. Zelson's father, Carl, also a pediatrician, and not Dr. Joseph Zelson, who died in December. We apologize for the error.

1984 - 1985 ALUMNI FUND REPORT

A MESSAGE FROM THE MEDICAL SCHOOL ALUMNI FUND CHAIRMAN

1984-85 was another banner year for the Medical School Alumni Fund. Four years ago this summer, I began my term in office by recruiting a number of additional Class Agents and announcing a goal of \$190,000 for the 1981-82 campaign year. Each year since then the goal has been a little higher and everyone responded admirably. In 1983-84 we fell a little short, but this year we really came through — \$380,818 and that's \$55,818 over our goal! The Reunioning Classes did their winning bit, as usual, by contributing well over \$110,000. Jim Haralambie's group of generous givers from the Class of 1935 led the parade with \$54,090 in honor of their 50th, while the Class of 1960 celebrated their 25th with an impressive total of \$11,113 under the guidance of agents Roland Ingram and Tom Kugelman.

Special notes of thanks to Nick Spinelli, who continues to be helpful in maintaining contact with the Reunion Classes; to that inimitable team of Ros Gallagher and Sam Kushlan for their

efforts on behalf of the Bequest and Endowment and Former House Staff Programs; and to Bill Waskowitz and all the alumni and student phonathon volunteers who helped so much to make this another memorable and rewarding year for the Fund.

Not all the good news is to be seen just in the numbers of dollars given during the past year. We now have a Medical School Alumni Fund Board of Directors responsible for the overall guidance and management of the Fund. Four members will be immediately active by functioning as Vice Chairmen of Agents to help maintain better communication with the agents; their respective classes are:

Mal White, '39 — 1923-1945

Bill McClelland, '47 — 1946-1960

David Hill, '65 — 1961-1973

Doug Berv, '74 — 1974-1985

Our fund could not exist without the loyal support of the School's alumni, alumnae, former house officers, parents and friends, and I wish to thank everyone for their thoughtful contributions.

Lowell I. Goodman

FUND OFFICERS 1984 - 85

Medical School Alumni Fund

Lowell I. Goodman, '51, *Chairman*

J. Roswell Gallagher, '30, *Bequest*

and Endowment Co-Chairman
Samuel D. Kushlan, '35, *Bequest*
and Endowment Co-Chairman and
Chairman, Former House Staff

Public Health Alumni Fund

Kathleen H. Howe, '56, *Chairman*

YALE MEDICAL SCHOOL ALUMNI FUND BOARD

Lowell I. Goodman, M.D., '51,
Chairman

J. Roswell Gallagher, M.D., '30

Harry Sherman, M.D., '34

Samuel D. Kushlan, M.D., '35

Malvin White, M.D., '39

R. Leonard Kemler, M.D., '43

Nicholas P.R. Spinelli, M.D., '44

William McClelland, M.D., '47

Harvey L. Young, M.D., '52

Harold Bornstein, Jr., M.D., '53

Robert Kramer, M.D., '55

William Kissick, M.D., '57

William Waskowitz, M.D., '57

Nicholas Passarelli, M.D., '59

Earl Baker, M.D., '61

David Hill, M.D., '65

Douglas Berv, M.D., '74

O'Dell Owens, M.D., '76

A MESSAGE FROM THE DEAN

Since becoming the dean of our School of Medicine last July, I have become increasingly aware of the importance of the Medical School Alumni Fund in providing a source of unrestricted income. For many years, this money has been used to provide additional student loans. Today, student financial aid continues to be one of the School's top priorities. I want to assure you that your Medical School Alumni Fund contributions will continue to be added to the Student Revolving Loan Fund.

In reviewing the report of the Fund for 1984-85, I was extremely gratified and encouraged to note that the total contributions have continued to increase and that the goal set for this year has been surpassed. I want to thank each of you who contributed to the Fund this year and to encourage your future support. I also hope that those graduates who did not contribute this year will do so in the coming year.

The success of the Fund's annual giving campaign is due mainly to hard work and persistence on the part of the

class agents and the various officers of the Fund. Their contributions of time and effort on behalf of the School are greatly appreciated. I want especially to congratulate Lowell Goodman on the tremendous job that he has done as chairman, a job which he has held since 1981.

At the Alumni weekend in June, I met with Lowell, other officers, and a number of class agents. We had a very frank discussion of how the School might be more responsive to some of the alumni expectations, especially in regard to admissions. I also had an opportunity on that occasion to express my personal appreciation to those who have worked so loyally on behalf of the Fund.

In conclusion, I wish to emphasize that your support of the School through the Alumni Fund is very important and that contributions to the Fund will be added to the School's Student Revolving Loan Fund to provide financial assistance for our students now and for years to come. This is certainly worthy of your support.

Leon E. Rosenberg

MESSAGE TO PUBLIC HEALTH GRADUATES AND FRIENDS

The Department is extremely grateful to the 651 alumni, alumnae and friends who contributed to the success of the 1984-85 Public Health Alumni Fund Campaign.

The proceeds of the drive are designated for student loans, a high priority of need, as the cost of graduate education continues to escalate.

The total of \$44,986 exceeded the goal by 112 percent and includes over \$4,000 raised by an enthusiastic group of volunteers from the New Haven area during a phonathon in June.

Kathleen H. Howe
Chairman

— AND A MESSAGE FROM THE CHAIRMAN OF E.P.H.

That the 1984-85 Alumni Fund Campaign for the Department of E.P.H. exceeded its goal is due in large part to Kaye Howe and her cohort of hard-working volunteers. It is continually evident that the Alumni Fund is an important asset to the School, providing much needed financial assistance to highly qualified graduate students.

Our thanks to Kaye Howe and all who participated and contributed to this very successful campaign.

Jan A.J. Stolwijk

MEMORIALS

Deceased medical alumni (and friends) may be memorialized by a gift at any time to the Medical School Alumni Fund Endowment in the name and class of the person so honored. The next-of-kin of a deceased medical alumnus/a is advised about this In Memoriam Program by mailing from New Haven some weeks after the School of Medicine receives notification of the death. The letter of information includes a copy of *The Testament of Remembrance* in which the names of all persons so memorialized are listed in the medical section by class, thus establishing a lasting memorial. Donors receive a personal penned note of appreciation from me. Your inquiries and interest are welcome at any time.

Deceased alumni and friends so honored for the first time in 1984-85 were: Ernest Russell, '16 and David P. Dunn, '60.

Richard G. Jordan
Director, In Memoriam Program

MEDICAL SCHOOL ALUMNI FUND CLASS PARTICIPATION FINAL REPORT—1984-85

YEAR	AGENT	1983-84 TOTAL	1983-84 % PART.	1984-85 TOTAL	1984-85 % PART.
1923	William Cohen	608	67	541	60
1924	Myron Sallick	3,652	86	5,081	71
1925	Alice Whittier	960	77	875	67
1926	Maxwell Bogin	546	67	551	71
1927	Harry Zimmerman	975	56	1,048	53
1928	Max Alpert	3,216	73	3,555	77
1929	Paul McAlenney	1,612	90	1,192	72
1930	J. Edward Flynn	2,446	52	15,984	60
1931	Michael D'Amico	1,901	68	1,663	83
1932	Henry Brill	1,366	50	1,725	44
1933	Franklin Foote	2,107	74	1,537	63
1934	John Ogilvie	14,929*	61	4,071	65
1935	James Haralambie	3,736	58	54,090*	70
1936	George Hahn	4,333	47	5,850	47
1937	David Dolowitz	1,671	48	753	53
1938	Nelson Ordway	1,100	63	1,215	74
1939	Rebecca Solomon	3,231*	57	3,371	62
1940	James Ferguson	3,750	65	10,793*	67
1941	Charles Cheney	2,287	64	2,856	64
1942	Walter Burdette	2,356	61	1,973	54
1943A	Dorothea Peek	2,915	66	2,995	69
1943B	S. Brownlee Brinkley	2,686	47	3,164	52
1944	Nicholas Spinelli	17,394*	74	8,393	61
1945	Richard Breck	3,350	60	24,854*	65
1946A	Charles Judd	4,438	56	4,675	56
1946B	Thomas Whelan	2,583	73	3,084	62
1947	William Roy Berg	4,918	66	4,700	59
1948	Paul Koehler	5,251	51	5,407	56
1949	Daniel Elliott	5,829*	52	3,785	47
1950	David Frucht	5,230	58	6,781*	71
1951	Lowell Goodman	5,075	45	5,271	49
1952	Harvey Young	5,035	46	4,310	43
1953	Vincent Grott	3,865	56	3,095	45
1954	John Rose	6,248*	65	5,323	67
1955	Robert Kramer	4,712	62	8,841*	62
1956	John Gardner	6,275	49	4,600	36
1957	Ronald Fishbein	3,195	56	3,620	59
1958	Howard Minners	3,205	73	4,055	68
1959	Charles Hall	1,715	54	1,570	51

MEDICAL SCHOOL ALUMNI FUND CLASS PARTICIPATION —continued

YEAR	AGENT	1983-84 TOTAL	1983-84 % PART.	1984-85 TOTAL	1984-85 % PART.
1958B	Paul Rudnick	3,350	71	4,010	56
1959A	Asa Barnes	4,185*	58	3,376	64
1959B	Muriel Wolf	5,930*	66	4,679	46
1960A	Roland Ingram	4,480	63	7,400*	67
1960B	Thomas Kugelman	3,800	69	11,113*	71
1961A	Earl Baker	2,430	47	2,625	52
1961B	Anoush Miridjanian	3,406	50	2,310	44
1962A	A. Richard Pschirrer	2,680	59	2,865	54
1962B	Frank Hartman	1,367	35	1,475	32
1963	Craig Llewellyn	5,715	54	10,685	56
1964A	William Houghton	3,620*	63	2,100	47
1964B	William Pratt	5,050*	71	5,145	76
1965	David Hill	3,905	38	8,840*	53
1966A	Mary-Alice Houghton	2,770	80	2,580	66
1966B	Henry Mann	1,355	50	1,975	63
1967A	James Dowaliby	2,596	69	1,691	47
1967B	Anthony Lovell	4,000	83	3,605	77
1968A	Frank Lucente	2,801	56	2,701	47
1968B	Donald Lyman	1,865	51	1,800	51
1969	Lee Jampol	7,948*	62	5,872	52
1970	James Missett	3,909	49	3,796*	42
1971A	John Cieply	2,486	44	1,942	40
1971B	Barbara Kinder	3,545	58	3,690	63
1972	Paul Lucky	3,048	44	4,143	46
1973A	David Bailey	955	42	1,050	39
1973B	David Johnson	1,415	46	1,135	36
1973C	Jerrold Rosenbaum	1,145	54	1,120	45
1974	Peter Buchin	1,970*	37	—	—
1974A	Amy Schecter	—	—	1,000	38
1974B	Robert Schecter	—	—	850	26
1975A	Daniel Passeri	625	25	1,450*	35
1975B	Mary Jane Minkin	795	18	1,135*	19
1976	Robert Taylor	1,982	30	2,116	30
1977A	David Kreis	1,200	36	600	21
1977B	Ronald Vender	715	37	820	38
1978A	Duke Cameron	1,340	26	1,360	26
1978B	Seth Powsner	215	21	105	14
1978C	Thomas Smith	580	31	110	20
1979A	Michael Hausman	365*	21	—	—
	Jeffrey Kaine	—	—	266	23
1979B	Laurie Smaldone	465*	18	445	21
1980A	Eduardo Alfonso	415	29	610*	36
1980B	Mark Bernhardt	415	22	655*	33
1981	Anthony Urbano	530	19	575	17
1982A	Muriel Cyrus	110	12	65	9
1982B	Jed Gorlin	90	19	135	27
1982C	Lynn Tanoue	75	12	—	—
	Stephanie Wolf-	—	—	—	—
	Rosenbaum	—	—	115	17
1983A	Michael Tom	145	9	170	10
1983B	David Schwartz	110	11	197	23
1984A	David Astrachan	—	—	140	12
1984B	Jay Kostman	—	—	121	17

*Reunion

MEDICAL SCHOOL ALUMNI FUND

	1983-84					1984-85			
	NUMBER SOLI- CITED	NUMBER CONTRI- BUTORS	PERCENT PARTICI- PATION	NEW/ INCREASED GIFTS	TOTAL	NUMBER SOLI- CITED	NUMBER CONTRI- BUTORS	PERCENT PARTICI- PATION	TOTAL
Alumni	3480	1674	48	\$55,217	\$254,710	3509	1613	46	\$359,470.50
Former House Staff	945	148	16	1,785	7,095	1004	168	17	9,560.00
Parents/ Friends	345	63	18	1,625	11,652	366	60	16	11,787.00
Interest Miscellaneous Gifts					11,319				13,464.42
Baumgartner Match					19,542*				
	4770	1885	40	\$58,627	\$304,319	4879	1841	38	\$380,817.50

*Balance of \$50,000 earned along with Public Health Alumni Fund.

*Includes \$67,372.75 for 3 life income gifts.

PUBLIC HEALTH ALUMNI FUND CLASS PARTICIPATION
FINAL REPORT—1984-85

YEAR	AGENT	1983-84 TOTAL	1983-84 % PART.	1984-85 TOTAL	1984-85 % PART.
1923-1941	----	1,791	58	5,770	50
1942	Eric Mood	265	33	460	80
1943	Eric Mood	275	31	460	45
1944	Eric Mood	270	56	260	33
1945	----	130	33	110	43
1946	----	65	22	80	33
1947	----	265	39	220	35
1948	Elizabeth Robinton	785	39	1,115	50
1949	Elizabeth Robinton	440	22	495	36
1950	Eric Mood	790	50	975	62
1951	Norton Chaucer	565	37	645	38
1952	Yolande Lyon	840	39	870	33
1953	Milton Sisselman	860	42	730	39
1954	Ruth Taber	70	13	—	—
	Eric Mood	—	—	45	13
1955	Frances Ogasawara	535	50	655	50
1956	David Boyd	555	36	545	29
1957	Edward DeLouise	470	48	525	57
1958	Thomas Flynn	765	29	700	29
1959	Dorothy Wilson	945	48	605	40
1960	Else Schulze	1,050	54	195	25
1961	William Slivka	1,300	43	655	50
1962	A. Kay Keiser	60	10	75	20
1963	David Dolins	520	33	850	43
1964	Istelle Siker	895	29	1,220	42
1965	H. Patterson Harris	580	29	1,885	50
1966	Allen Cohen	305	24	220	18
1967	James Malloy	2,445	36	1,525	41
1968	Arnold Saslow	1,475	43	1,805	45
1969	Samuel Korper	1,450	27	1,035	36
1970	Susan Balter	1,650	35	1,345	31
1971	John Bihldorff	2,221	53	2,025	49
1972	Dorothy Lewis	830	34	485	30
1973	Judith Beatrice	820	20	1,495	29
1974A	Elizabeth Helming	170	22	—	—
	Thomas Benoit	—	—	320	35
1974B	Karen Lindfors	525	33	535	44
1975	Linda Broker	1,391	35	1,667	41
1976	Flaine Anderson	1,560	34	1,690	35
1977	Dorothy Rice	1,390	29	1,380	33
1978	Ann Freedman	1,318	38	1,759	39
1979	Ralph Tartaglione	2,420	51	1,505	32
1980	Christina Quinn	1,020	31	1,155	37
1981A	Diane Goren	805	36	6156	26
1981B	Barbara Gaugler	165	24	240	32
1982A	Michele Visconti	385	22	265	14
1982B	Amy Wilson	475	32	445	39
1983A	Jeffrey Hughes	505	39	1,260	24
1983B	Mary Beth McNerney	300	32	175	16
1984A	Anthony Alberg	—	—	110	17
1984B	Leslie A. Balch	—	—	80	10
ALUMNI AE TOTALS		38,761	—	42,590	—
Interest misc. gifts		1,755	—	2,396	—
Baumgartner Match		3,162	—	—	—
TOTAL		43,678	36%	44,986	35%

Contributors to the Medical School Alumni Fund 1984-85

Alumni

1906

Charles R. Mitchell *

1908

Michael A. Parlato *

1912

Walter C. Tilden *

1913

Ralph E. Taylor *

1916

Ernest Russell *

1919

Willys M. Monroe *

1920

Oscar Brenner *

1921

Ella W. Calhoun

1922

Maurice Grozin *
Benedict R. Harris
Chester E. Hurwitz *
Helen P. Langner
Reginald T. Lombard

1923

William Cohen
Joseph Epstein
Jacob Mellion
Julius Olean
Hyman Weinstein *

1924

John J. Batchelor
D. Anthony D'Esopo
David M. Raskind
Myron A. Sallick
Harold T. Vogel

1925

Dorence S. Cowles
Waldo F. Desmond
Henry W. Ferris *
William E. Hall
Samuel Reback
Welles A. Standish
Alice A.S. Whittier
Howard A. Wood

1926

Stanton T. Allison *
Maxwell Bogin
William H. Hahn *
Joseph L. Hetzel *
Morris Hinenburg
Ben Klotz
Milton Malev

1927

Milton B. Berman
Wallace R. Bostwick *
John M. Freiheit *
Albert Jablonsky
Nathan Levy
William C. Meredith
Moses Rothberg
Alfred F. Seibert
M. Dawson Tyson
Harry M. Zimmerman

1928

Max Alpert
Berthold R. Comeau *
Sheldon A. Jacobson
Raymond A. Johnson
Edward P.J. Kearney
Ralph E. Knutti
R. Harold Lockhart
Edward W. Ludwig *
Nathan E. Ross
Robert I. Rubinstein
John M. Russell *
Alvin A. Schaye *
Lewis A. Schauer

1929

James Rae Arneill, Jr.
John W. Cass, Jr.
Charles J. Epstein
Robert A. Frisch
Olive Gates
George S. Goldman
Alexander O. Haff *
John A. Hangen
Harold J. Harris
Paul F. McAlenney
Tony L. Rakietyen *
William F. Roth, Jr. *
Russell B. Scobie
Robert Tennant
Newell Raymond Washburn *
Julius G. Weiner *
Mabel Wilson
Herman Yannet

1930

Daniel N. Beers *
Frederick Fitzherbert Boyce
Charles A. Breck *
Vincent A. Doroszka
Knox H. Finley
J. Edward Flynn
J. Roswell Gallagher
Leonard Greenburg
James C. Hart
Edmund L. Kitzmeyer
Paul H. Lavietes
Moses D. Lischner
James M. Lynch *
Paul Watson *
Amy H. Wilson
Charles L. Wood

1931

Henry H. Briggs, Jr.
Benjamin Castleman *
Michael D'Amico
Richard L. Frank
Helen R. Gilmore
Paul A. Harper
Harold E. Harrison
Morris Freund Heller *
Thomas Jaleski
A. Philip LaFrance
Rhoda M. Mickey
Nelson Newmark
Sheldon Payne
Morris L. Rakieten
James W. Reed
Abraham J. Schechter
James A. Stringham

1932

Louis K. Alpert
Henry Brill
Frank Carroll
Clement C. Clarke
Joseph P. Donnelly
Lee E. Farr
Lewis F. Foster
Conrad R. Lam
Arthur J. Present
Elizabeth M. Ramsey
Benjamin N. Tager
Myron E. Wegman
Ronald J. Wehger *

1933

Myron J. Adams *
Fred W. Buse
Warren P. Cordes
Franklin M. Foote
Jack Greenberg
Daniel F. Harvey *
George K. Hirst
Raymond E. Miller
Ashley Pond III
Paul L. Saffo
Sidney Stringer *
John J. Wolfe
Francis M. Woods

1934

Leona Baumgartner
Frederick Beck
James F. Blades
Joseph Budnitz
Derick A. January
Theodore P. Merrick
Herbert C. Miller
John B. Ogilvie
Lucien M. Pascucci
Harry Sherman
William R. Willard
George Zalkan *

1935

Walter E. Barney
George A. Carden, Jr.
Edgar S. Childs
Edward F. Falsey
Sawnie R. Gaston
H. Hoffman Groskloss
James Quintin Haralambie
W. Howard Horner
Mildred Hartshorn January
Samuel D. Kushlan
Donald P. Morris
Norman E. Peatfield
Norman P. Rindge
Milton Rose *
Clark P. Searle
Walter A.L. Thompson
Samuel Zelman

1936

Daniel Bergsma
George Henderson Brown
Lester W. Burket
Albert W. Diddle
Franklin F. Ferguson
Margaret C.L. Gildea
George D. Gross
George A. Hahn
Louise G. Hutchins
Philip M. Le Compte
Donald F. Marshall
Stephen F. Nagyfy
Frederick A. Post
Margaret Sommers
Morris Tager
Edgar W. Warren

1937

Edmund R. Blower
Guido A. Deblasio
David A. Dolowitz
D. Crosby Greene
Joseph B. Hollinshead
Wilbur D. Johnston
Alfred E. King
Dunham Kirkham
Julia Mehlman
James P. Morrill
Charles W. Neuhardt
Morgan Sargent
Edward J. Shaw
Albert D. Spicer
John M. Thomas
Jean Wells

1938

Roy N. Barnett
Agnes Vernon Bartlett
Henry L. Carideo
S. Charles Kasdon
Benjamin E. Lyons
Edward Nichols
Nelson K. Ordway
Charles J. Petrillo
Edward W. Pinkham
James Radcliffe
Arthur S. Reynolds
George E. Roberge
Lester J. Wallman
J. Richard Zahn

1939

Harold H. Coppersmith
Norman L. Cressy
William H. Druckemiller
Robert G. Ernst
John P. Ferguson, Jr.
Joseph B. Forman
S. Jerome Greenfield
Margaret A. Lennox
Ward J. McFarland
James Peter Murphy
Russell Nahigian
Douglas S. Riggs
Ernest L. Sarason
Bradford Simmons
Rebecca Z. Solomon
Stuart S. Stevenson
John D. Tobin
Arthur S. Tucker
Darrell G. Voorhees
Douglass W. Walker
John H. Wentworth
Malvin F. White

1940

Theodore E. Allen
Joseph V. Baldwin
Ronald S. Beckett
Jack S. Blaisdell
Philip S. Brezina
Thaddeus S. Danowski
Richard E. Dormont
Robert M. Dunlap
James F. Ferguson, Jr.
Eugene J. Fitzpatrick, Jr.
Henry D. Humphrey
H. Stuart Irons, Jr.
Donald G. Johnson
Ira D. LeFevre, Jr.
Paul D. MacLean
Edward Martin
William R. Oakes
Maurice Ross
Lee S. Sannella
W. Norman Sears *
Joseph E. Sokal
J. Champneys Taylor
Patricia E. Wanning
John B. Wells
Helen H. Woods

1941

Sophia Chamberlain Alway
Robert H. Areson
W. Randal Bell
Knut E. Berger
William A. Carey
Joseph P. Carson, Jr.
Charles B. Cheney
Herbert W. Diefendorf
Robert Dine *
Lloyd D. Flint
John Franklin
Frederick P. Glike
Sidney L. Lasell
Bjorn Lih
F. Eugene Martin
Willys M. Monroe
Malcolm C. Murfitt
Edward B. O'Connell
Robert W. Ollayos
Gioacchino S. Parrella
David V. Pecora
Edwin D. Rogers
Leslie Simmonds
Irving Waltman

1942

Eugene M. de Hostos
William E. Bloomer
James M. Bunce
Walter J. Burdette
Robert E. Carroll
Vincent J. Collins
Hendrick DeKruif
Davitt Felder
Elihu Friedmann

Allan V.N. Goodyer
William Harrison, Jr.
Leo Kellerman
John R. Lincoln
Patrick S. Mullins
Dean Nichols *
Samuel Ritvo
Lois Knight Rogers
Richmond W. Smith, Jr.
Edgar B. Taft
Maurice Tulin
Irving Norman Wolfson

1943 (March)

Ralph D. Alley
John R. Brobeck
Lycurgus M. Davey
Donal L. Dunphy
Gerard Fountain
R. Leonard Kemler
Joseph P. Kriss
Jonathan T. Lanman
Douglas Lindsey
J. Philip Loge
Henry E. Markley
Walter J. J. Nero
Dorothea R. Peck
Edward F. Rabe
Earl J. Rhoades
Henry A. Riedel
Bernard R. Rowen
Marcus E. Sanford
Edward Hersey Soule
Hilliard Spitz
Nicholas M. Stahl
Sophie Trent Stevens
Oliver G. Stonington
Robert Lee Taylor
Frederick A. Waldron
John J. Weber
Robert H. Wyatt

1943 (December)

Richard N. Abbott
John R. Almklov
David G. Borden
S. Brownlee Brinkley
Henry B. Bruyn, Jr.
Thomas L. Bucky
Jane B. Cadbury
Philip B. Chase
Hunter H. Comly
Norman I. Condit
Thomas D. Cook
Ronald W. Cooke
Jean P. Davis
Joseph I. Epstein
Robert H. Furman
Victor C. Hackney
Henry H. Jones
Joseph Kell
Sawyer E. Medbury
Ira A. Rashkoff
Donald W. Seldin
Francis A. Spellman

1944

Carl E. Andrews
Edward J. Conway
George B. Corcoran, Jr.
Frank W. Countryman
Charles H. Crothers
Lawrence G. Crowley
John H. Doherty
Robert W. Frelick
Carol Goldenthal
Charles A. Hall
Robert I. Hinkley
Edith M. Jurka
John Weaver King
Frederick F. Krauskopf
Elias J. Marsh
Katherine Hawley Martin
Joseph Massaro
A. Reese Matteson
Paul E. Molumphy
Lawrence K. Pickett

* Deceased

Haynes W. Sheppard
Sarah P. Sherwood
Lugene Smith
Nicholas P.R. Spinelli
Priscilla Dienes Taft
Anthony Varjabedian
Calvin W. Woodruff
Rueben Zucker

1945

George Howard Allison
A. John Anlyan
Albert S. Atwood
Frederic M. Blodgett
Richard W. Breck
Louise H. Burr
Alice Shepard Cary
Sanford F. Cockerell
Jay B. Cohn
Thomas P. Cotter
Edward M. Daniels
Robert S. Easton
Sidney S. Feuerstein
Alice Dershimer Friedman
Raymond A. Gagliardi
James D. Gardam
James R. Mason
Philip S. Good
Gove Hambidge, Jr.
Herbert S. Harned, Jr.
Paul W. Hoffer
O. Roger Hollan
Hans R. Huessy
Leland W. Jones
William E. Laupus
Raymond E. Lesser
Mark McD Lindsey
Charles E. McLean
George W. Naumburg, Jr.
Fitzhugh C. Pannill
Richard M. Peters
Elliot R. Reiner
Charles E. Sherwood
Joseph R. Stanton
Kenneth C. Steele

1946

Margaret J. Albrink
Aaron T. Beck
Franklin C. Behrle
Frederick C. Biehuse
Sanford G. Bluestein
Linus W. Cave
Thomas J. Coleman
Thomas A. Doe
Edward F. Edinger
Georgie E. Flynn
Martin E. Gordon
Charles S. Judd, Jr.
Harold King
Benjamin F. Kitchen, Jr.
Vincent J. Longo
Richard H. Mann
Thomas J. Mathieu
Hugh J. McLane
John H. Morton
John F. Neville, Jr.
Laura W. Neville
Harry Dickson Patton
Vincent Pepe
Francis Reilly *
David H. Riege
Julian A. Sachs
Donald P. Shedd
Richard G. Sisson
Robert R. Wagner
William J. Wedemeyer, Jr.
Thomas J. Whelan, Jr.
John S. Wing

1947

George R. Barnes, Jr.
George N. Blansfield
George W. Bostrom, Jr.
George J. Bowers
George R. Breg, Jr.
George J. Cendamo
George P. Cohn
George J. Cohn
George J. Cohn

Charles R. Cavanagh, Jr.
Robert A. Chase
Amos I. Chernoff
William F. Collins, Jr.
Robert P. Darrow
Owen W. Doyle
Franklin Harold Epstein
Richard K. Friedlander
Frank H. Horton
Robert J. Kerin
Don F. Kimmeling
Richard P. Levy
Brock Lynch
Victor A. Machcinski
Robert F. Newton
Myron K. Nobil
Lawrence C. Perry
Philip H. Philbin
Edgar B. Phillips II
Olive E. Pitkin
Irving Rudman
Alvin Somberg
Igor Tamm
Patricia B. Tudbury
Ellis J. Van Slyck
M. Henry Williams, Jr.

1948

Russell J. Barnett
George F. Batten
Allyn G. Bridge
Ruth L. Cortell
G. Robert Downie
Elizabeth Fuller Elsner
Boy Frame
Emil Frei III
Julian Frieden
B. Herold Griffith
Sylvia Preston Griffiths
Richard M. Hannah
Ross R. Marcus
W. Rayner Johnson
Paul B. Koehler
Patrick J. McLaughlin, Jr.
C. Arden Miller
John P. Morris
John B. Morrison
David E. Morton
George P. Rostel
Benjamin F. Rush, Jr.
Jerome H. Shapiro
William A. Sibley
Jessie Parkinson Spear
Anne G. St. Goar
Paul Talalay
Wallace W. Turner
Paul Woodbury Weld

1949

William G. Anlyan
Henry W. Baird III
William D. Bevis
Jonathan S. Bishop
Mary Pucci Couchman
Phillip G. Couchman
N. Joel Ehrenkranz
Daniel W. Elliott
Albert A. Fisk
Paul S. Goldstein
Eleanora C. Gordon
Frederic W. Gray
Daniel K. Halvorsen
Jackson Harris
Gordon D. Jensen
Timothy F. Nolan, Jr.
Richard D. Otis
Julian I. Pichel
Edmund L. Piper
Charles L. Rennell, Jr.
Daniel Rudman
William H. Sewell
Raymond D. Sudarsky
Mary-Agnes Pratt Wine

1950

Russell N. Anderson
Lyal D. Asay
Sylvia L. Axelrod
Malcolm A. Bagshaw
John E. Borowy

William H. Bucher
Alvin Davis
Claude W. Delia
Kent Ellis
Thomas J. Ferraro, Jr.
Daniel Fine
David A. Frucht
Carl A. Gagliardi
Archie J. Golden
Marilyn M. Kritchman
Lucian S. Lapinski
Sidney S. Lee
Janus C. Lindner
Margaret S. Lyman
Harold March
Harry L. McClelland
John H. Meyers
Orlando J. Miller
Robert T. Sceery
Cynia B. Shimm
Jane B. Shumway
Martin Smith *
Myra D. Tyler

1951

Karel Bedrich Absolon
W. Robert Adams
Thomas T. Amatruza, Jr.
Stanley D. Ardell
Muriel H. Bagshaw
Eleanor Clay Bigley
John J. Egan
Daniel X. Freedman
Sidney S. Furst
Joseph M. Garland
Ralph M. Gofstein
Lowell J. Goodman
John T. Groel
Robert N. Hamburger
John V. Haxo
Carroll K. Iverson
Paul D. Millikin
Walter S. Morgan
Albert R. Mowlem
Richard S. Munford
Charles A. Nugent, Jr.
Gerard B. Odell
Jose Felix Patino
Arthur A. Pava
Majic S. Potsaid
William F. Stephenson
Harold M. Sterling
William Taylor *

1952

John W. Arnold
Frank R. Coughlin, Jr.
Philip Gardner Deane
Raymond S. Duff
James R. Durham
Richard D. Floyd
William Joseph Johnson
Thomas S. Kelly
James Kent Luce
Robert F. Owen
Robert G. Petersdorf
Leon A. Phillips
John Macklin Roberts
Leonard Rush
Mary Wheatland Schley
Donald H. Schultz
Robert B. Schultz
Virginia Lee Swanson
John H. Wagner, Jr.
Doris L. Wethers
John L. Wolff
Harvey L. Young
Robert Zeppa

1953

Claude Bloch
Harold D. Bornstein, Jr.
William R. Chaffee
Allen Chetrick
Rex B. Conn
Louis R.M. Del Guercio
James P. Dunn
Donnell Dencil Etwiler
Robert Emanuel Hamlish
A. Daniel Hauser

George L. Hoffmann
David Purdy Holman
Peter Biggs Hukill
Richard Robert Knowles III
Robert N. Melnick
Harvey Martin Peck
Warwick Potter, Jr.
Paul G. Quie
Jose Ramirez-Rivera
Barbara F. Rosenberg
Irwin K. Rosenberg
Virginia C. Saft
Ora K. Smith
Lynn Cortland Stoker
William Junior Vandervort
William August Wilson

1954

Frank P. Berg
Richard J. Bouchard
George N. Bowers, Jr.
Ralph K. Campbell
John R. Cole
Arthur C. Crovatto
Donald D. Davis
Walter J. Freeman
John A. Gariepy
Edward J. Gerety
Frank L. Gruskay
Nicholas A. Halasz
Walker R. Heap, Jr.
Eva H. Henriksen
Samuel J. Hunter
Herbert S. Hurwitz
Robert J.T. Joy
Donald S. Kornfeld
Lowell A. Kristensen
Richard Lamb
Harry C. Miller, Jr.
Paul N. Newfeld
James J. Nora
Lowell E. Olson
William J. Paule
Anthony V. Piccirillo
Richard D. Pullen
Jacques M. Quen
Edwin R. Ranzenhofer
Earl D. Rees
David M. Robinson
John Keith Rose
Elihu M. Schimmel
Leonard M. Silverman
Robert L. Stein
John W. Vosskuhler

1955

John B. Atwater
John C. Bailar III
George E. Becker
E. Edward Bittar
Jerome Bobruff
Douglas G. Boyden
Irwin M. Braverman
Edward Noel Brennan
Padraic Burns
Leo R. Cardillo
Nicholas A. Coassin
Edward D. Coppola *
Milton Corn
Pasquale James Costa
Robert G. Crounse
John G. Daley
Fred Wendell Doyle
William O. Edward
Leroy Engel
F. Robert Fekety, Jr.
Mahlon V.R. Freeman
Barbara W. Gibson
Rudolph J. Goerke III
Paul Gonick
Ion Gresser
John H. Hodge
D. Franklin Johnson, Jr.
Harry O. Kendall
David R. Kessler
Robert A. Kramer
William E. Lattanzi
Roger Lester
Alexander Maitland III
Joseph S. McGuire, Jr.

Guy M. McKhann
Russell Miller, Jr.
David Joseph Nelligan
Robert C. Nodine
James P. Nolan, Jr.
Sherwin B. Nuland
Gloria C. Onque
John C. Pace, Jr.
Robert H. Peters, Jr.
Gregory Peterson, Jr.
F. Brantley Scott, Jr.
Phillip W. Smith
Alan A. Stone

1956

Levon Z. Boyajian
Thomas M. Brown
Rosalie A. Burns
Chandler Dawson
S. Evans Downing
Gilbert M. Eisner
Thomas F. Ferris
Armen Charles Haig
John Herd Hart
William H. Hindle
Marie-Louise T. Johnson
George T. Kammerer
Jerome O. Klein
William V. Lewit
Leo Lutwak
Preston C. Manning
Dwight F. Miller
Norman F. Moon
Donald J. Nalebuff
A. Frederick North, Jr.
David A. Page
Stewart E. Pursel
Edward C. Senay
Benjamin A. Shaver, Jr.
Daniel R. Silbert

1957

Donald Agostinelli
Joseph S. Amenta
Louis V. Aviole
Jack Norman Blechner
Richard I. Breuer
Harry C. Briggs
Carl A. Brinkman
John P. Carey
Albert K. Chun-Hoon
Harold Dick Cross
John D'Agostino, Jr.
Thomas H. Danaher
James R. Dorr
Edward Louis Eyerma, Jr.
Harold J. Fallon, Jr.
Robert E. Fishbein
Ronald H. Fishbein
Anthony L. Fons III
Elizabeth H. Forsyth
Robert H. Glass
Anne H. Good
Jack Peter Green
Gilbert F. Hogan
Warren R. Johnson
Richard Lee Kahler
Stanley E. Kilty
William L. Kissick
George C. Knovich
Jack Levin
Mark D. Marshall
David E. Martin III
Howard A. Minners
Robert K. Modlin
Hugh Lamson Moffet
George Albert Nelson, Jr.
Herbert A. Newman
Thomas Francis O'Brien, Jr.
Joseph S. Pagano
Raymond E. Phillips
Clifford B. Reifler
Arnold Schoolman
Kenneth A. Simon
Gilbert B. Solitare
Robert W. Southworth
Donald C. Stahl
Arthur Taub
William J. Waskowitz
James G. Zimmer

1958

George K. Aghajanian
Don P. Amren
Joseph E. Angelo
John P. Arnot
Gerard N. Burrow
David A. Carlson
John A. Carlston
John A. Creatura
Lawrence Dubin
Donald A. Duncan
Joel C. Eberlin
Michael E. Fishman
Peter A. Flynn
Raymond A. Gaito
John C. Gallagher
James Greenwald
Charles A. Hall, Jr.
Michael Kashgarian
Jay Ward Kislak
Theodore W. Lieberman
Myron Lotz
Thomas J. Mauro, Jr.
Michael J. McCabe
Andrew Joseph McGowan, Jr.
John A. Merritt, Jr.
David W. O'Keeffe
Carol F. Phillips
David M. Pugh
William B. Radcliffe
Paul A. Rudnick
William W. Schlaepfer
Thomas R. Shea
Edward Lloyd Socolow
Raymond W. Turner
Margaret Smith Wenzel
Joseph P. Wierzbinski III
John Patrick Wood

1959

Scott Ingram Allen
Carol J. Amick
Robert M. Amick
Asa Barnes, Jr.
Francis A. Beer
William C. Butterfield
Edward Call, Jr.
Sidney M. Cohen
Ronald C. De Conti
Gerald Fenichel
Robert L. Fisher
Paul Jay Friedman
Robert J. Gonyea
Gerald B. Gordon
W. Keith Hadley
James H. Halsey, Jr.
William H. Heydorn Mc
C. Richard Hinckley
Leonard Inker
John J. Jasaitis
Edvardas Kaminskas
Herbert J. Kaufmann, Jr.
David W. Kingsbury
Myron S. S. Lee
Kathryn Huxtable Lewis
Daniel L. Macken
John C. Marsh
James A. O'Neill, Jr.
Robert H. Ostberg
Nicholas M. Passarelli
Charles A. Phillips
James R. Ralph
David Pardee Reed
Joseph Douglass Robinson, Jr.
Joseph D. Saccio
Marvin L. Schulman
David B. Skinner
Sanford P. Solomon
Lisa A. Steiner
Leo H. Von Euler
Muriel D. Wolf

1960

Festus O. Adebbonjo
Victor Altschul
Jack D. Barchas
Colin Mercer Bloor
Ormond V. Brody

* Deceased

Donald P. Buebendorf
Stanley M. K. Chung
Gerald N. Cimmino
Jon E. Courtney
Louis A. D'Avanzo
Malin Dollinger
David P. Dunn *
Caldwell B. Esselstyn, Jr.
Warren H. Fisher
Paul Jay Friedman
Alvin E. Friedman-Kien
Eugene C. Gaenslen, Jr.
James I. Gilman
Maxwell E. Gottesman
Sylvia D. Grant
Roland H. Ingram, Jr.
Daniel M. Jones
William S. Kaden
Eric P. Kindwall
Susan T. Kleeman
Thomas P. Kugelman
Edward R. Lang
Thomas Lau
Edward Longo
Robert Marcus
Eugene G. McCarthy, Jr.
Donald L. Miller
Richard G. Morrill
Michael J. Moynihan
Allan W. Newcomb
Buford L. Nichols, Jr.
J. Thomas Okin
Jerrold M. Post
Nancy Rolick Powell
Albert Matthew Ross
Daniel J. Rubin
John J. Schrogie
Fred Stargardt
Charles F. Stevens
Robert C. Wallach
May Yung-Fun Woo Wang
Ronald A. Yankee

1961

Kenneth A. Arndt
Earl L. Baker
Frank H. Baker
Albert A. Bechtoldt, Jr.
Robert S. Briggs
David William Brook
Paul David Deiter
Ralph J. DePonte
Ronald A. Dierwechter
Jon Dudley Dorman
T. Wayne Downey
John E. Fenn
Norbert Fleisig
Edward C. Gilbert
Louis D. Hunt
Richard L. Keefe
Thomas Kirsch
Robert Issac Levy
Hugh James Lurie
Anoush Miridianian
Richard Allen Moore
Norman I. Moss
John Curtis Parker
John Pearce, Jr.
Elaine Pitt
Roy E. Ronke, Jr.
Stanley G. Schade
Robert N. Taub
Hugh C. Thompson III
Franklin H. Top, Jr.
David E. Weaver
Warren D. Widmann

1962

Michael H. Alderman
Charles B. Anderson
Frederic P. Anderson
Dean E. Burget, Jr.
Fredric K. Cantor
Ray Allen Carlsen
Thomas Newell Chase
Oliver Townsend Dann
Arnold Joel Eisenfeld
I. Bruce Elfenbein
Roderick C. Haff

Patricia C. Hassakis
Victor W. Hurst III
Walter Watson Karney
Glenn L. Kelly
David E. Knoop
Manual J. Lipson
John P. Lynch
Malcolm A. Martin
Allan L. Mattern
Stanley E. Matyszewski
William G. Meffert
George Stuart Miller
William A. Miller
Malcolm S. Mitchell
David D. Nicholas
Joseph Ross
James A. E. Spencer
H. Oliver Stoutland
Seth Thaler
Sherwood Waldron, Jr.
Stewart R. Wright

1963

Arthur Howard Ackerman
Miguel R. Alonso
V. Richard Back
Charles W. Carl, Jr.
Theodore J. Chu
Gordon S. Cohen
John E. Conte, Jr.
David F. Cross
Dudley Seth Danoff
Judith Malm Davis
Andrew Edin
David H. Fram
William T. Friedewald
David H. Fulmer
Alexander R. Gaudio
Lee D. Goldberg
Peter B. Gregory
Benjamin Keith Harris
Harold P. Kaplan
Constantine D. Kyropoulos
William B. Lehmann
Craig H. Llewellyn
Edward G. Lund, Jr.
Sally Lockwood Marchesi
Vincent T. Marchesi
Robert H. Margulis
Herbert Meltzer
Robert E. Mueller
Sheldon A. Pinnell
Jay M. Pomerantz
Gene R. Profant
Lee Bland Talner
Thomas W. Tillack
Peter V. Tishler
Lawrence Tremonti
Peter G. Weiner
Jerome Allen Winer
Alfred J. Wise

1964

Berton W. Ashman
Leland S. Berger
Philip Blume
Anthony J. Bravo
Robert M. Briggs
Thomas A. Cardella
Joseph F. J. Curi
Alfonso Esguerra
Norman C. Fost
Peter A. Gross
John F. B. Haney
Gene I. Higashi
Lawrence Horwitz
William J. Houghton
William E. Knight
Lewis Landsberg
Richard V. Lee
Thomas L. Lentz
James S. Levine
Paul R. Lightfoot, Jr.
Richard Murray Linburg
Andrew E. MacMahon
William F. Matchett
Thomas O. McCann
Robert L. Mitchell
James J. Murphy

Donald A. O'Keeffe
William B. Pratt
Stanley J. Rosenberg
Jonathan J. Russ
Richard P. Saik
Stephen A. Schacher
Norman Scher
Robert L. Shelton
Donald G. Skinner
A. Thomas Snoke
Richard C. Stillman
Lyll C. Stulp II
Charles Vogel
Stephen Waltman
Oscar Wand

1965

Susan A. Aoki
John H. M. Austin
Paul Balter
Victor J. Burner
Thomas B. Caldwell III
David G. Campbell
Dewey A. Christmas, Jr.
Robert M. Cohn
Michael J. Cummings
Phyllis Hurwitz Duvdevani
David S. Fedson
Robert I. Finkel
Frank J. Grady
Gary Lawrence Gross
Robert Andre Gryboski
James K. Gude
Reid R. Helfner, Jr.
David A. Hill
Carl E. Hunt
Robert H. Koehl
Richard J. Kozera
David J. Kupfer
David B. Leof
Sandra Chook Levine
Mark W. Lischner
Philip D. Manfredi
Walter W. Noll
A. Lawrence Ossais
John A. Parrish
Robert L. Pickens
Alan N. Rachleff
William A. Renert
George B. Rowland
John H. Seashore
Margretta Ann Reed Seashore
Charles J. Semonsky
David M. Shames
David P. Simmons
Robert T. Solis
Alan William Stone
Robert G. Weiner
Bert Yuan-Shu Wong

1966

Benjamin F. Balme
John D. Baxter
Frank C. Bell
Philip Bernstein
James Edward Brown
Eugene Patrick Cassidy
Joseph A. Donadio
Robert E. Dragon
Marvin A. Eisengart
Jared M. Emery
Robert N. Frank
Robert C. George
Peter D. Gibbons
Stanley I. Greenspan
J. McLeod Griffiss
Robert A. Gunn
Stuart T. Hauser
Jay G. Hayden
Mary Alice Houghton
Richard J. Howard
Bruce W. Jackson
Gordon R. Kelly
Neal Koss
Stuart M. Kotler
Wilbur L. Kukes
David C. Law
Lynne L. Levitsky
Henry B. Mann

Robert L. McRoberts
John Stephens Melish
Marian Matheke Melish
Harold Mellin
Eli H. Newberger
Neil J. Peterson
William D. Peterson
Joel Singer
James D. Slavin, Jr.
Gary L. Townsend
Lee Van Lenten
Joan T. Wayland
Jon S. Wayland
John W. Wickenden
William B. Yeagley
Arne S. Youngberg
Richard B. Yules

1967

Daniel L. Arons
Arthur L. Beaudet
Daniel J. Booser
Gary C. Burget
William T. Cave, Jr.
Marian C. Davidson
James J. Dineen
James M. Dowaliby, Jr.
John A. Drews
Peter R. Egbert
Herbert W. Felsenfeld
Melvin Victor Goldblatt
Richard J. Hart
Richard L. Heppner
Peter N. Herbert
George P. Herr
David L. Ingram
Anthony P. Lovell
Stephen W. Miller
William J. Mitchell
Joseph L. Morris
Jennifer Robinson Niebyl
John O. Pastore
William E. Perkins
Brian F. Rigney
Robert I. Roy
Jonathan L. Savell
Alfred Q. Scheuer
Stephen C. Schimpff
Sidney C. Smith, Jr.
Helen L. Smits
Lewis S. Solomon
Robert S. Steinberg
Richard B. Swett
M. David Tilson III
Karen H. Toker
George Tyler
Robert A. Vogel
Joseph F. Walter
Martin Wand
Robert J. Winer
Robert S. K. Young
Ihor George Zachary
Peter M. Zeman

1968

Phillip L. Barry
Daniel I. Becker
Grace Jordison Boxer
William Catalona
Donald R. Coustan
Edward M. Drury
Barbara M. Egbert
Alan G. Finesilver
Richard A. Getnick
Mark Gilbert Grand
Leonard Grauer
Ralph S. Greco
Kevin N. Hennessey
John R. Hill, Jr.
Harry S. Holcomb III
Thomas R. Johnson
Jeffrey S. Lee
Frank E. Lucente
Donald O. Lyman
Rodrigo Martinez
Harmon Michelson
David P. Millett
Richard P. Mills
Peter Nicholas, Jr.

John A. Ogden
Margot Onck
Jackson B.E. Pickett III
Charles T. Post, Jr.
Joseph L. Renda
Gordon H. Sasaki
Frederick C. Sherman
Elizabeth M. Short
Howard W. Siegel
Gerald L. Springer
Lee H. Strohl
James L. Weiss
Per Henrik Wickstrom

1969
Charles S. Angell
David G. Ansel
David W. Barry
Robert E. Belliveau
N. Roger Cooke
Richard J. Daly
Charles A. Dinarello
Ralph J. Falkenstein
Gary S. Farnham
William H. Frazier
Royal J. Gay
David A. Geer
Sander G. Genser
Robert O. Gordon
Steven M. Herzberg
Thomas C. Howard
Lee M. Jampol
Joel Mark Kaufman
Paul H. Kelker
John J. Kelly, Jr.
Stephen Krant
Elliot M. Livstone
Robert L. Marier
Arnold F. Mazur
Ellen B. Milstone
Thomas F. Minehan
Bruce K. Nagle
Lionel M. Nelson
Nancy Olmsted
Deborah A. Putnam
N. Burgess Record, Jr.
Joseph D. Robinson
Joseph M. Rochford
Dennis J. Rudzinski
David J. Sahn
Adrian M. Schnall
David J. Schulak
Gerald J. Smallberg
Michael S. Toren
Robert J. Walat
Steven C. White

1970
William Romney Burke
Henry Chessin
Michael J. Chusid
C. Norman Coleman
Michael D. Danzig
Jonathan Ecker
Robert Alan Epstein
Bruce A. Fabric
Thomas H. Gouge
Paul C. Hessler
Jay H. Hoofnagle
Jonathan D. Katz
Gerard T. Kennealey
Fly A. Kirschner
William G. Koehne
Mark A. Korsten
Thomas I. Lewis
Robert B. Litman
Anne W. Lucky
Leonard M. Milstone
James R. Missett
Bruce A. Rentz
Robert M. Rosa
Ann I. Rubinstein
Debra I. Shield
Gordon L. Short
Richard A. St. Onge
W. L. Tapp III
Robert W. Tapp
J. H. Tapp
Kenneth W. Tapp
Kenneth W. Tapp
Kenneth W. Tapp

1971
Judith L. Bader
Laurie J. Bleicher
Willard Cates, Jr.
John L. Ciepely
Frederick L. Cohn
Andrew D. Cook
Edward C. Cottle
Michael Cynamon
John S. Ebersole
Leonard I. Eisenfeld
Harvey Fernbach
Fred Finkelman
Jared J. Gardner
Richard Gloor
Michael J. Hart
William W. Hay, Jr.
Barbara K. Kinder
Michael E. Klein
William L. Krinsky
David H. Lippman
Samuel S. Masters
Wallace J. Matthews, Jr.
John C. Mills
Patrick T. Miniham
Steven H. Moffic
Richard Albert Moggio
Richard R. Neufeld
Martin Paris
John A. Patti
Barry Bruce Perlman
Michael C. Piercey
Anthony V. Proto, Jr.
Barry S. Rand
David M. Rinzier
Douglas R. Schmidt
John Smiarowski
James P. Southwick
Jonathan W. Stewart
Daniel R. Synkowski
Richard D. Travers
Yvonne E. Vaucher
Paul A. Vignola
Robert B. Vranian
Albert Carl Weihl
Daniel G. Wright

1972
Robert D. Arbeit
R. Michael Buckley, Jr.
Michael A. Catalano
Leonard H. Cohen
Philip L. Cohen
Gloria Cummings *
Norman M. Dinerman
William H. Druckemiller, Jr.
William F. Duke
John W. Foster, Jr.
M. Fleix Freshwater
John P. Fulkerson
Dorothy M. Gohdes
Bruce B. Haak
Andrew E. Hoover
Thomas L. Horn
Vernon H. Humbert, Jr.
Fred Hyde
Anthony H. Jackson
Jesse B. Jupiter
Roy A. Kaplan
Donald I. Kent
David L. Kncapler
Paul A. Lucky
Harry L. Malech
Jeffrey S. Menkes
Jerome H. Meyer
Jorge A. Motta
Thomas H. Ogden
Edward J. Olinger
John N. Posch
William L. Risser
Philip M. Rothfeld
John S. Smolowe
Frederick D. Stockwell
Philip J. Weyman
Michael W. Yogman
Steven M. Zeldis

1973
David Nelson Bailey
Mary Ann Brunstetter-Shafer
Marvin M. Chassin
Joseph M. Connors
David L. Coulter
Christopher M. Doran
Joseph W. Eichenbaum
Jane H. Ferguson
Richard J. Fingerioth
Robert A. Florin
Robert E. Galloway
Lee Goldman
Gary T. Grimes
Neal Handel
David C. Johnson
Andrew G. Kadar
Lynne M. Liptay
George Lister, Jr.
Harold R. Mancusi-Ungaro, Jr.
Mark G.F. McCormick
David E. Peach
Charles F. Reynolds III
James S. Robertson
Harry S. Romanowitz
Jerrold F. Rosenbaum
Robert A. Sirota
John R. Stratton
James F. Sullivan
Thomas F. Sweeney
Robert J. Ursano
Christine A. Walsh
Marc A. Weinberg
Richard S.K. Young
Randall M. Zusman

1974
Irving M. Asher
Douglas A. Berv
Bruce David Blumberg
Neil Blumberg
Peter J. Buchin
Bert D. Collier, Jr.
Paul David
Vincent A. Di Maria
Michael K. Eshelman
Irl L. Extein
Allan B. Friedland
Michael A. Gerber
David Grant
Robert C. Jimerson
Ancil A. Jones
Saul Lande
Edward L. Marut
Richard C. Pasternak
Andrew L. Ries
David Z. Ritvo
Daniel I. Rosenthal
Amy S. Schechter
Robert J. Schechter
Carol C. Teitz
John Jones Thompson

1975
Ralph E. Binder
Neil Blumberg
William S. Bush
Carl C. Chi
Stanley W. Gale
Elizabeth R. Gawron
Carol L. Kandall
Richard J. Loewenstein
Bruce B. McClucas
Hyman J. Milstein
Mary Jane Minkin
Robert G. Nankin
Andrew B. Newman
Edwin G. Olson
Vivian Reznik
James F. Robertson III
Salvatore V. Romano, Jr.
Fred P. Rosenfelt
Richard L. Roth
Robert S. Sandler
Steven A. Schwartz
George H. Talbot
Mark F. Wheeler
Henry S. Willner
David W. Wiltse
Douglas R. Zusman

1976
Sarah S. Auchincloss
Alfredo L. Axtmayer
John C. Bartlett
Peter B. Bitterman
Sharon L. Bonney
Roger A. Boshes
Randall D. Cebul
John D. Clemens
Geoffrey Etherington
Leonard Firestone
Rose Hannah Goldman
Glenn A. Gorfitsky
Avi J. Hettena
Norman V. Kohn
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Alumni Bulletin of the Yale School of Medicine

Winter 1986



law and medicine in confrontation

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LAW & MEDICINE IN CONFRONTATION

a deans' dialogue

Deans Leon E. Rosenberg of the School of Medicine and Guido Calabresi of the Law School spoke to standing room only audiences as they discussed such medicolegal issues as malpractice law, bioethics and third party payors in a two-part series billed as "A Deans' Dialogue: Law and Medicine in Confrontation." On December 2, Dean Rosenberg addressed medical and law students and faculty in the Law School Auditorium; and on the following Monday, Dean Calabresi spoke before a similar audience in the medical school's Harkness Auditorium. Each dean responded to the other's remarks following the talks.

Dean Rosenberg set the tone of the dialogue when he expressed deep concern about the future of the medical profession, predicated on the "pervasive, unwelcome, crushing embrace of medicine by law.

"Every participant in the health care system — doctors, nurses, hospital administrators, paramedical personnel — is beset by an onslaught of new laws and regulations affecting every phase of medicine — from care of the critically ill newborn to that of the terminally ill aged; from the decision to terminate a pregnancy to that concerned with termination of life-support systems; from criteria for hospital admission to those involved with Medicare reimbursement; from 'Baby Doe' regulations to 'squeal' laws," he said.

"And worst of all, because it is the most personal, physicians are forced to live with the specter of malpractice litigation constantly in their minds' eye. This legal assault has occurred so swiftly and has been implemented so harshly that it has begun to erase some of the very attractions long associated with pursuing a medical career — autonomy,

independence, approbation, inquiry," Dean Rosenberg added.

"The issue, in my view, is not whether law has a legitimate claim to a greater scrutiny of and control over medicine, for clearly it does. Rather, the question is whether the legal means being used to control medicine and the conduct of some of the lawyers implementing the laws are moving our society in a direction such that the largest number of people have available the highest quality health care," he said. "Sadly, my answer to this question is 'NO'".

Dean Rosenberg cited two examples to support this response. The first had to do with attempts to decrease the enormous cost of hospitalizing patients, such as the Diagnostic Related Group system of hospital reimbursement and other strategies which are aimed at keeping people out of the hospital who don't need to be there, such as the recently implemented program of the federal Health Care Financing Administration (HCFA) which manages Medicare regulations.

This program mandates that all Medicare patients scheduled for elective surgery or emergency admission to any hospital in Connecticut will be required to have pre-admission screening and certification from the state's HCFA delegate — the Connecticut Peer Review Organization (CPRO). If the admitting physician fails to comply, either by not seeking certification or by admitting the patient despite denial of the request for certification by the CPRO, neither the hospital nor the physician will receive reimbursement from Medicare. Private insurance carriers, according to the dean, are establishing similar pre-admission approval



Dean Rosenberg

systems with perhaps even tighter controls.

"The message is clear," he said. "In the name of cost containment, it has been determined that the judgement of CPRO or insurance company personnel based on no patient contact is superior to that of the physician caring for the patient . . . This is health care by a bureaucracy out of contact with the patient and out of touch with the physician. It tends to mock the age-old ethical precepts that each patient is unique, that the physician's first obligation is to his or her patient, and that clinical skill, knowledge and judgement are gained by experience. How can the many subtle determinants leading to the decision to hospitalize an elderly person be reduced to the simplicity of 'yes/no' certification by telephone? Who will be held culpable if a patient deemed uncertifiable for admission dies at home for want of hospital attention? When does the life of one person count for more than the dollars of many?" he asked.

The other issue is medical malpractice litigation — an incendiary topic that is front page news.

"Professional rivalry between physicians and lawyers is understandable, perhaps inevitable. The hostility, misunderstanding, and antagonism which now characterize the dialogue between members of the two disciplines in the area of malpractice, however, has reached unacceptable proportions. It poses a threat to the two warring professions who may soon hear from the public something like 'a pox on both your houses.' More importantly, it places at risk the very quality of health care physicians are committed to provide and lawyers are bound to protect. If, for example, a significant fraction of obstetricians stop delivering babies and young M.D.'s follow suit by going into other less litigation-labile specialties, then one day maternal and infant mortality rates will begin to climb. Clearly, wisdom dictates changing course before such dire consequences

occur," advised Dean Rosenberg.

To underscore the magnitude of the malpractice crisis, Dean Rosenberg cited a few statistics including that fact that in 1983, one of every five practicing physicians in the United States was sued for malpractice with a total of 42,000 malpractice claims lodged in that one year; for all physicians, premiums for malpractice insurance increased by 238 percent between 1975 and 1984 and in that same interval, mean physician income increased by 92 percent; in 1975, the average malpractice judgement was \$95,000 and in 1984, it was \$338,000, and in 1984, the national cost for the practice of "defensive medicine" was estimated at \$15 billion.

The legal definition of medical malpractice is straightforward and originated under the law of torts, noted Dean Rosenberg. According to the law, once a physician-patient relationship has been established, the physician is obligated to diagnose and treat that patient with "due care". Failure to do so constitutes negligence for which the injured patient may sue and recover monetary damages.

"It is this claim of negligence which lies at the heart of the medical malpractice problem," he contended. "All physicians know that medicine is an imperfect science, that maloccurrences take place, and that some maloccurrences result from negligence and incompetence."

"The issue, in my view, is not whether law has a legitimate claim to a greater scrutiny of and control over medicine, for clearly it does. Rather, the question is whether the legal means being used to control medicine and the conduct of some of the lawyers implementing the laws are moving our society in a direction such that the largest number of people have available the highest quality of health care." — Dean Rosenberg

As to why the issue of medical malpractice is so explosive, Dean Rosenberg maintains this is largely a function of the vast ignorance of physicians about law, and the equally cavernous ignorance of lawyers about medicine. "If physicians understood that the law doesn't believe in absolute truth but rather employs an adversary system to resolve conflicts by coming as close to the truth as possible, they might not see a claim of professional negligence as such a mortal threat to their self esteem.

"If lawyers understood that medicine has no adversary other than illness, injury, or death and that the practice of medicine depends on the willingness of patients to believe in their physician's expertise, they might understand why a charge of professional negligence tends to undermine the very authority and trust so crucial to the doctor-patient

relationship,” he said. “Because the vast majority of law students are not required to take a course in ‘biomedical law’ and most medical students learn little if any ‘legal medicine’, both groups are socialized into their respective professions without any positive endorsement of the other. Thus, the bright, aggressive, ambitious people who become our doctors and lawyers substitute professional chauvinism for mutual understanding and learn only too well how to use words like ‘shyster’, ‘quack’, ‘ambulance chaser’ or ‘butcher’.

“... This legal assault has occurred so swiftly and has been implemented so harshly that it has begun to erase some of the very attractions long associated with pursuing a medical career — autonomy, independence, approbation, inquiry.”

— Dean Rosenberg

“Can it surprise us then, that when members of these two professions, who have had so little contact with each other during their formative years, confront each other in the charged, complex and visible cauldron of medical malpractice litigation, that physicians scream that our society must do something to keep rapacious lawyers from destroying our system of health care, and lawyers yell back that society must do something to keep incompetent doctors from killing and maiming people?”

Since what we as a society are doing about medical malpractice obviously isn't working, we must do something else, according to the medical school dean. First and foremost, we must begin to educate the public to the fact that medical care can sometimes be “hazardous to your health” and that “physicians cannot always solve patients' problems and may even make them worse; that there are inherent contradictions in the demands for medical care of high quality and equally affordable cost; and that this country has among the best health care systems in the world because the great majority of its practicing physicians are well trained, skillful and caring.”

Lawyers, he said, must learn that there is a real and critical difference between maloccurrence and malpractice; that physicians speak truthfully when they say that being sued for malpractice is among the most devastating and disfiguring catastrophies that can happen to them, and that demanding a standard of professional responsibility from physicians more rigorous than that expected for themselves is the ultimate hypocrisy.

In turn, the dean said that physicians must learn that the venerable contract between doctor and patient must be rewritten so that the physician is viewed as a partner in the transaction rather than as an infallible, unchallengeable authority, and that “failure to discipline and weed out incompetent or impaired physicians has so eroded the public's confidence that they, the patients, not we, the doctors, are the primary focus of our ethical concerns; and that the single most effective safeguard against malpractice suits is the bond established between doctor and patient through informed consent and thoughtful communication.”

This educational agenda is long and challenging. It will be achieved only if it is addressed in the classrooms of our

medical and law schools, in the workrooms of our news media, in the board rooms of our insurance companies, and in the living room of our citizens. While all this is going on, I believe we must modify — perhaps even overhaul — the legal system which adjudicates professional liability claims...

“Broader reform measures, aimed at lawyers and physicians, must be considered to put some limit on damages for pain and suffering, to subject contingency fees to a sliding scale by which the attorney for the plaintiff's fraction of monetary damages falls as the size of the judgement rises; to require periodic rather than lump sum payments for large awards; to mandate risk-management programs for physicians and hospitals; to insist that insurance companies make data concerning malpractice awards available to state agencies responsible for disciplining physicians, and to fund expanded state disciplinary agencies by increasing fees for licensure from physicians and allocating the additional revenue to the disciplinary authority. Such reforms will not do away with medical injury, negligence or incompetence. They will, however, demonstrate to physicians and lawyers alike that the threat to the public's health posed by the current malpractice litigation nightmare must be contained until something better comes along,” predicted the dean.

The way out of the malpractice dilemma, he contends, is through educating the public as well as physicians and lawyers, and by modifying the legal system which adjudicates professional liability claims. A possible solution, he suggested, would be a “no-fault”-based national compensation system for medical injury along the general lines of workmen's compensation or automobile accident liability.

In conclusion he said, “The constraints, contradictions, and contumely currently being heaped on physicians are not justified by any errors physicians have committed in meeting their professional and social responsibilities. The medical profession must be given back a central role in the development of national health care strategies because it is among the few groups with the expertise to help make some of the difficult choices which lie ahead. The public, through the law, and lawyers, through their professional behavior, must show restraint in the demands they make of Medicine because, in the final analysis, the public stands to lose the most if the profession of Medicine is diminished and, by being diminished, attracts to its ranks a less capable and dedicated breed of physician. Surely, that is not the way to ensure one of our citizens' unalienable rights — to life.”

“One of the troubling things about the whole discussion of malpractice is how often doctors on the one side and lawyers on the other, seem to be primarily concerned with what malpractice law means for them rather than what it means for patients.” — Dean Calabresi

In his talk on December 9, Dean Calabresi responded, “One of the troubling things about the whole discussion of malpractice is how often doctors on the one side and lawyers on the other, seem to be primarily concerned with what malpractice law means for them rather than what it means for patients.” Malpractice law fails to induce better medical care and to efficiently compensate patients who suffer severe medical ill effects, because instead it produces “outrageously wasteful defensive medicine,” observed the Law School dean, whose father and brother are physicians.

Why do we stay with malpractice? Because other methods of inducing better medical care are equally flawed, according to Dean Calabresi.

In response to Dean Rosenberg’s proposal for implementation of a no-fault-based national compensation system, the law school dean advised, “We still can, and should, decide what medical maloccurrences are sufficiently dire to justify such a compensation system. There may be differences on this question, but however resolved the cost of the approach is likely to be small compared to the disaster of our current malpractice law. To do it today, however, we would have to make such a fund take the place of the malpractice suit, for we cannot roll things back and return to the pious fraud malpractice was,” he said. “We have all eaten the fruit of the Tree of Knowledge and can no longer successfully pretend that we are seeking medical perfection through a do-nothing malpractice law, while compensating injured parties through another system . . .

“We can only get out of our mess by admitting what is hard to admit, that lots of errors and maloccurrences will occur, that as to all but the grossest (which self-regulation or patient choice may control), there isn’t anything we can do, and that the best we *can* do is alleviate the suffering of those most severely injured.”

Leaving the subject of malpractice, he turned to two areas that concern him about how physicians behave today, both involving failure on the part of physicians to take responsibility. “They both will lead, are leading, to precisely the kind of crushing embrace of medicine by law that Dean Rosenberg suggested was disastrous,” he cautioned.

The first is the area of payments and insurance for medical care, which he contends is not viewed by most doctors as something they should become involved in, except when

“somehow the insurance system ends up asking them to fill out outrageous forms or paying them less than they think they should get.” And yet, he believes, it is one of the factors that most destroys a decent patient-physician relationship.

“How can a patient believe that a doctor or hospital cares for her or his well being when entrance to a hospital or to a doctor’s office — often however dire the emergency — awaits proof of insurance or other form of capacity to pay? How can the patient believe the doctor cares, when after treatment or discharge, in many, many cases the patient is left unaided to fill out forms that — believe me — strain the capacity of highly trained lawyers or accountants?”, asked Dean Calabresi.

“How can any semblance of relationship persist when after the ‘third-party-carrier’ has inevitably returned the forms as inadequately filled, or sent to the wrong carrier, or with a reimbursement that bears no relationship to the doctor’s or hospital’s bill, the patient is faced by a dunning letter from doctor or hospital threatening interest or far worse penalties, if no payment is made at once?” he asked.

“It is there that I and many lawyers would find the medical profession wanting,” he said.

“Why are doctors and their associations not lobbying, shouting, writing letters, and as important, joining lawyers in drafting bills to create a system of health care insurance that is speedy, efficient, and easily understood by the ordinary patient?”

When he raises this question with doctors as well as with lawyers, Dean Calabresi said, he is usually told that there isn’t time for such lobbying and thinking and bill writing. “But there is time (on both sides) to lobby and fuss about malpractice. . . No, it is not a matter of time, but a matter of interest, of caring.”

The second issue of physician responsibility is harder and more deeply important in that it deals with doctors being willing to take responsibility for desperately ill patients. “There are, I think, few things more scandalous than doctors who, when a patient and that patient’s family have said that extraordinary medical treatment should be avoided, nevertheless insist on such treatment, or worse, ask that a court decide for them whether treatment must take place, or whether the plug should be pulled.”

“In the past, doctors made analogous decisions routinely, and admittedly were criticized for being high-handed and not communicating with patient and family,” said Dean Calabresi. “They were told they were playing God and shouldn’t. There is plenty of room, however, between playing God and trying to duck the responsibility that being a member of a profession has to entail. It is for being unwilling to act in this middle zone of uncertainty that doctors have been most severely criticized by legal scholars.

“Why are doctors and their associations not lobbying, shouting, writing letters, and as important, joining lawyers in drafting bills to create a system of health care insurance that is speedy, efficient, and easily understood by the ordinary patient?” — Dean Calabresi

"Here, as in so many things between law and medicine, there is a fundamental lack of understanding by each profession of what the other is about," he pointed out. "The doctor who seeks legal assurance that a tragic choice should be made in one way (while keeping the patient and family in limbo), believes that the law is set of clear rules that can give 'yes' and 'no' answers to conduct, and can do it publicly. The law knows that this cannot be so, that often the law will declare one thing and permit the opposite precisely because it is the only way to allow a society to cleave to conflicting ideals," he added, citing an example of euthanasia to explain his point.

"When a doctor invokes the law in such a situation, that doctor not only fails to give the patient and family the care they have a right to — which means immediate care — but also starts a process that goes a long way toward establishing the crushing embrace the doctor will later, properly, complain about," said Dean Calabresi. ". . . to people outside of medicine, a doctor's role is *not* just to keep people alive at all costs; it is to care for them, to treat them according to their best interest. That, as I said earlier, involves a decent medical payment system, but it also involves allowing people to die with dignity and without having to go to court to do so. . . ."

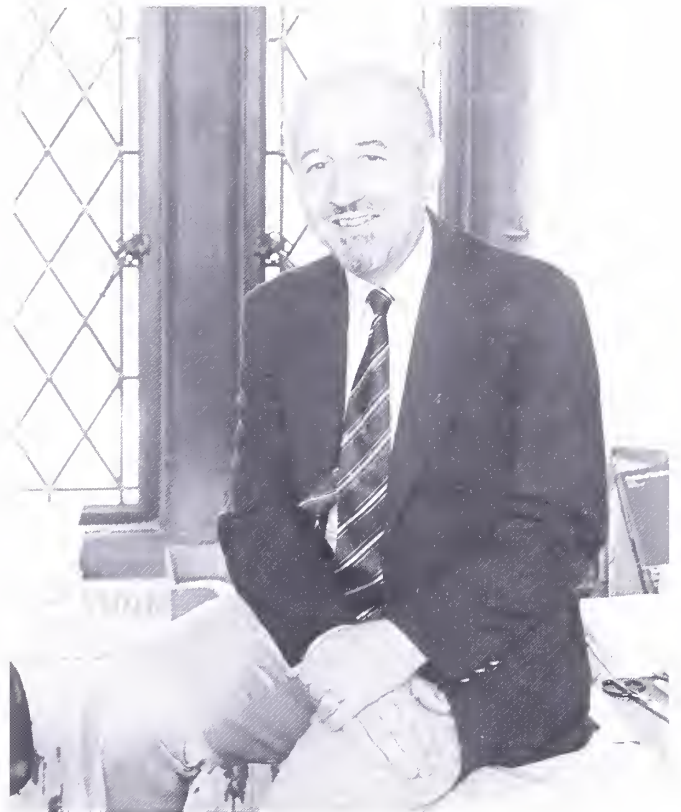
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—Dean Calabresi

Dean Calabresi noted that one person's death with dignity is another person's premature abandonment, which is just one reason why *yes* or *no* legal rules won't work. "It requires exquisite sensitivity to the particular situation of the particular patient and that patient's family," he explained.

. . . "Most doctors fear the crushing embrace of the law. Most thoughtful lawyers fear being called in to regulate medicine. They fear the same embrace just as strongly," he said in conclusion. "If the embrace comes, then, it is because the professions have not worked together to find ways of accomplishing what the public desires of us. There are things the public wants that cannot be given to it — perfection in medicine and simple rules in law.

"But there are things the public wants that can be given it — the capacity to cope financially with catastrophic medical maloccurrences, the possibility of having decent medical care without being badgered by bureaucrats armed with unintelligible financial forms and requirements before and after treatment, and the chance to live without the fear of either being discarded prematurely or being kept alive in intolerable conditions. If lawyers and doctors, both, focus more on these things that the public wants from us in our interactions, and less on what benefits *us* or frightens *us* most in those interactions, we will be able to respond to the public, be true to our calling, and, in the long run, also remain the professions we would wish to be."



Dean Calabresi

TRACKING THE EPSTEIN-BARR VIRUS

Dr. I. George Miller won't let up until he pinpoints the mechanism which allows EBV to persist. Thus far, his research team has found a rearranged piece of viral DNA which seems to control latency, perhaps causing the virus to replicate.

by Grace Breitstein

For more than 15 years, Dr. I. George Miller has relentlessly pursued a scoundrel — the Epstein-Barr virus (EBV).

EBV, a member of the herpes virus family first discovered in 1964, has been associated with infectious mononucleosis, several cancers and, most recently, with Acquired Immune Deficiency Syndrome (AIDS) in infants and children.

The direction of his research and the key challenge before Dr. Miller, the 48-year old John F. Enders Professor of Pediatric Infectious Diseases at Yale, has been to acquire clues as to how EBV persists.

"I'm interested in figuring out the basic mechanism of how the virus interacts with the lymphocyte, its usual target," said Dr. Miller. "How does it change the behavior of the cell, so that a normal cell takes on the direction of becoming a cancer cell?"

The virus, when added to a normal cell in a culture, causes the cell to grow continuously, a process Dr. Miller has termed immortalization. It is unknown which particular EBV gene immortalizes the cell, causing the virus to persist in a latent, or dormant form inside the cell.

"If the virus were to start to replicate, it would kill the cell," said Dr. Miller. "So a very important problem to resolve is what keeps the virus from replicating and what controls the process of latency."

An exciting finding of his research team here has been a rearranged piece of viral DNA which seems to control latency. When put into the cell, it causes the latent virus to replicate.

Working with Dr. Miller on that study were Jill Countryman, a graduate student in biochemistry, and Dr. Hal Jensen, a postdoctoral fellow in pediatrics and epidemiology, and recipient of an NIH Physician Scientist Award for the study of basic science related to clinical problems.

Dr. Miller's accomplishments thus far earn him warm praise from his colleagues. Dr. Dorothy M. Horstmann, John R. Paul Professor Emeritus of Epidemiology, describes Dr. Miller as a "remarkably able and imaginative investigator."

"He knows how to ask the right questions and he gets around to answering them," she said. Dr. Horstmann noted Dr. Miller's early work in which, using information derived from studies on the Marmoset monkey, he devised a tissue culture system that subsequently allowed for the study of EBV around the world.

EBV was first isolated in tissues of patients with Burkitt's lymphoma, a form of cancer prevalent in parts of East Africa, and later in a nose cancer common among Chinese. Finally, EBV has been associated with cancer in children suffering from immune deficiencies that resulted from the effects of drugs used in organ transplants. This led

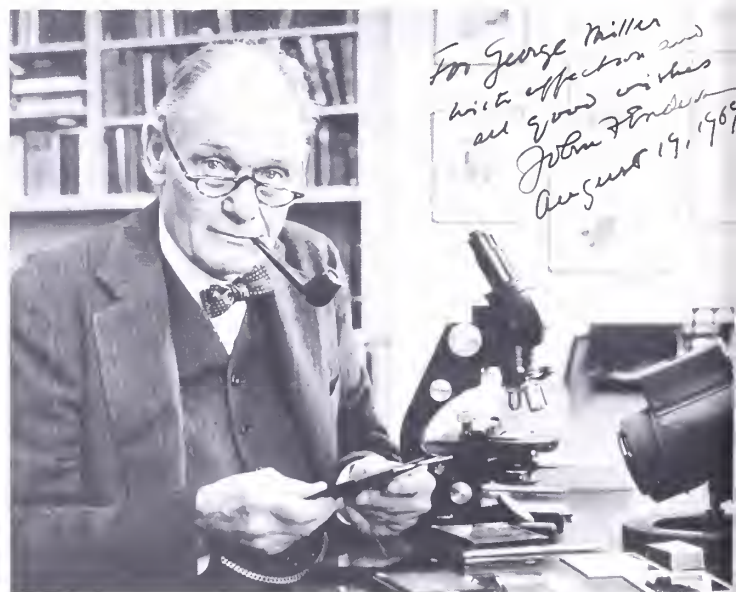
Dr. Miller to pursue a hypothesis of EBV's association with AIDS in children.

The largest and most complicated of viruses, EBV contains as many as 75 different genes, most of which are involved in replicating the virus. A subset of no more than ten and no fewer than three genes has been implicated as the primary culprits, said Dr. Miller. Much of his work focuses on finding out how those genes function. Answers to such questions could lead to ideas on how to cure the cells by destroying the virus, perhaps with drugs developed to have a crucial point of attack.

Meanwhile, Dr. Miller and his colleagues have called attention to the association between EBV and AIDS and the complications the virus causes in infected infants and children. He and other AIDS researchers in his laboratory have detected EBV in tissue extracts from the lungs of nine children and from the brain of one child after examining specimens from 18 infants and children with AIDS.

In some cases, Dr. Miller has found EBV to be pervasive in children with AIDS. The virus was readily recovered from the blood and saliva of a seven-month old boy born heroin-addicted to a 27-year-old prostitute. The infant's lung

Dr. Miller's mentor, the late Nobel Prize-winning virologist John F. Enders, conducted research which led to vaccines that fight against childhood diseases, including polio and German measles. His message to Dr. Miller conveys a sense of the warm relationship that existed between the two scientists.



biopsy showed normal air spaces in the lung being replaced by EBV-infected tissue.

The findings, reported in a December issue of *The Lancet*, underscore the importance of EBV as the cause of various complications, including cancer of the brain and a form of chronic pneumonia, in children with AIDS.

"It may be that cells in the lung support replication of the virus, especially in patients with immune deficiencies," Dr. Miller said during a January medical oncology conference he conducted on AIDS in children.

Children, according to Dr. Miller, appear to be more susceptible to EBV-related complications than adults, possibly because of the sequence of events surrounding the time in which they contract AIDS. The HTLV virus which causes AIDS may somehow predispose children to acquiring complications after being EBV-infected.

"One reason may be that adults probably contract the AIDS virus after they've been infected with EBV," Dr. Miller said. "So they've already developed a certain amount of immunity to the virus and have brought it under control."

Children, on the other hand, may develop EBV while they are already infected with the AIDS virus. "It's more simultaneous," he said.

Most recently, Dr. Miller and a Yale medical research team have begun studying how children with AIDS become infected with HTLV III, the causative agent of AIDS. They hope to identify the risks of transmission, particularly among siblings.

Those participating in the study include: Dr. Warren A. Andiman, associate professor of pediatrics and epidemiology; Dr. Ben Katz, a Pfizer postdoctoral fellow; Dr. Karen Dahl, an NIH postdoctoral fellow; and Kelsey Martin, a first-year medical student.

"We know they are born into a family with high-risk members," said Dr. Miller. "The mother and father are usually drug abusers. Sometimes the father may be bisexual or occasionally, he may be hemophiliac."

"We're working on the question of why some people get sick and others don't, and exploring the possibility that there might be a difference in the viruses, some of which are killer viruses and some of which aren't."

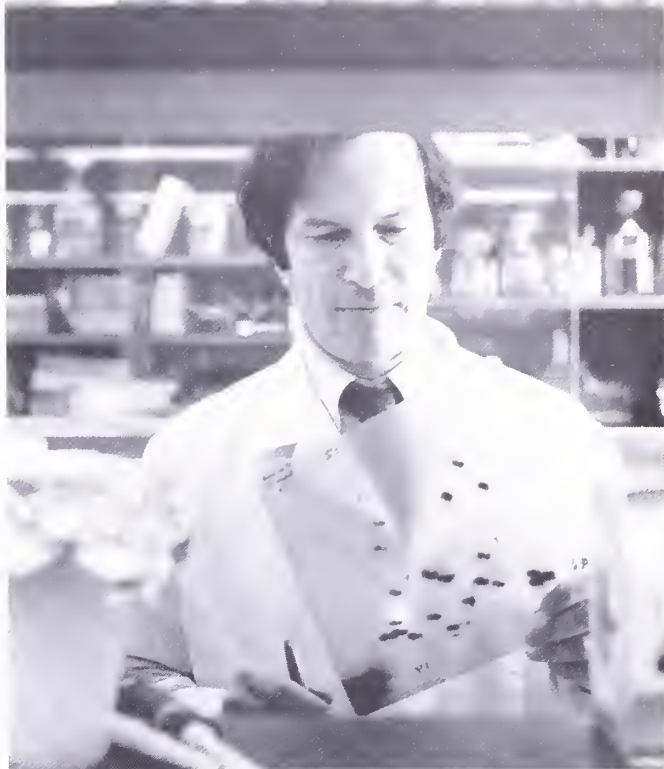
In these and other areas of research, Dr. Miller has employed the quiet precision and conviction of his mentor, the late Nobel Prize-winning virologist and Yale College alumnus, John F. Enders, whose chair Dr. Miller has held at Yale since it was created in 1976.

Dr. Enders' work advanced the fight against cancer and led to vaccines that fight against many childhood diseases, including polio and the German measles. Dr. Miller worked under his instruction from 1966 to 1969 as a fellow at Harvard Medical School, where together they studied the ways viruses infect normal lymphocytes.

Dr. Miller said he hopes that he emulates the style and techniques of Dr. Enders, who "was interested in straddling the line between medicine, its practical problems and basic research."

Dr. Miller's background and career do indeed reflect his mentor's influence. Born in Chicago, Dr. Miller graduated *cum laude* from Harvard College and from Harvard Medical School in 1962. He wrote his medical school thesis on techniques developed to measure the production of interferon, a protein produced in the cell to fight viral replication.

After a residency at the University Hospitals of Cleveland, Dr. Miller served as Epidemic Intelligence Service Officer



Exercising patience and persistence, Dr. I. George Miller, the John F. Enders Professor of Pediatric Infectious Diseases, has studied the Epstein-Barr virus and its association with several cancers, mononucleosis and with AIDS in children. Pictured above in his laboratory, Dr. Miller examines recombinant DNA clones.

for the Communicable Disease Center in Atlanta, and later as chief of the center's virus unit.

Following his work with Dr. Enders at Harvard, Dr. Miller joined the Yale medical faculty in 1969 as assistant professor of pediatrics and epidemiology, and in 1972 he became an associate professor. In 1982, Dr. Miller received the Squibb Award from the Infectious Disease Society for his work regarding the growth of EBV.

His wish-list includes seeing greater research efforts aimed at linking a number of viruses and cancer.

"There are four or five viruses where the evidence is good that they cause cancer in humans," Dr. Miller said. "The time is very much ripe for studying these viruses." One such virus, hepatitis B, is believed to cause cancer of the liver. Another, the papilloma virus, may cause cervical cancer.

For pleasure, good health and mostly as relief from the stress of his day-to-day research, Dr. Miller jogs 20 miles each week, plays the piano, and retreats to a country home in Vermont where he keeps plenty of wood to chop.

His wife, Arlette, a real estate agent and avid potter, is no stranger to Yale either. From 1974-84, she taught pottery to hospitalized children at the Yale Psychiatric Institute.

The Millers have three children: Liza, 23, an editor for the *Harvard Business Review*; John, 20, a junior at Swarthmore College; and David, 16, an 11th grader at Hopkins Grammar School.

Grace Breitstein, is staff writer to the School of Medicine's Office of Public Relations.

DIGESTIVE DISEASES RESEARCH: *continuing the Yale legacy*

With basic scientists and clinicians working side by side, recent advances in treatment for some of man's most troubling diseases are more rapidly delivered from the research bench to the bedside.

by Marje Noyes

The prognosis for an infant born with biliary atresia is devastating. Almost as somber are prospects for children diagnosed as having cystic fibrosis or adults with inflammatory bowel disease or cirrhosis of the liver. According to the National Digestive Diseases Educational Program, an estimated 20 million persons in the United States are chronically ill, and more Americans are hospitalized with digestive diseases than with any other group of disorders.

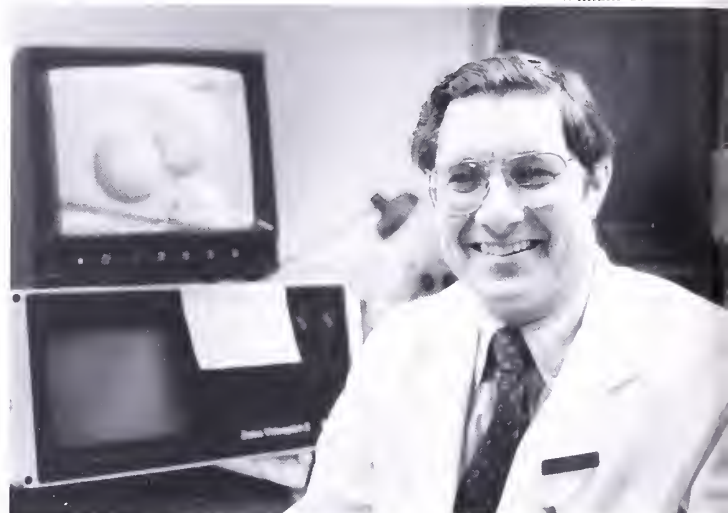
Research being done in the Digestive Diseases Division at Yale may significantly change the outlook for many of these patients. Established in 1982 under the direction of Dr. James Boyer, professor of medicine, the division combines the interests and expertise of the Gastroenterology Unit (GI) and the Liver Study Unit in a wide range of studies of the digestive system. Recognized for its pioneering research into the causes and treatment of these diseases, and for its outstanding postdoctoral training program, it is as well, a major referral center for patients with digestive disorders of all kinds.

The achievements of the Digestive Diseases Division are a result, in part, of the legacy of Dr. Howard Spiro, professor of medicine, one of Yale's most distinguished gastroenterologists, who for 27 years as its founder and director, shaped the development of the GI Unit; and of Dr. Gerald Klatskin, the David Paige Smith Professor Emeritus of Medicine, who founded the first liver study unit in the country at Yale in 1948.

The GI Unit and Liver Study Unit have changed a great deal in the last decade. With the formation of the division, there are more researchers and clinicians working side by side whose interests cover a much broader range than before — in keeping with the expanding disciplines in this field.

In 1984, following nearly four decades of pioneering work on liver function and disease, Yale received a \$2.4 million Digestive Diseases Research Center grant from the National Institutes of Health to establish one of the first three federally funded liver centers in the country. Directed by Dr. Boyer, it integrates the work of 19 principal investigators and 18 supporting full-time faculty from eight departments, in a broad based program ranging from basic research on the cellular and molecular levels to therapeutic trials in patients with complications of chronic liver disease.

William Carter



A video-enhanced image of a liver cell couplet appears on the screen behind Dr. James Boyer.

The list of almost 50 postdoctoral fellows who trained with Dr. Klatskin from 1958 until his retirement reads like a "Who's Who in Liver Disease Research." One of these fellows was Dr. Boyer, who assumed leadership of the Liver Study Unit on Dr. Klatskin's retirement in 1978. A graduate of Johns Hopkins School of Medicine intent on a career in infectious diseases, he changed course while on duty with the Public Health Service in Calcutta in the '60s, where he worked with patients with liver disease.

Then as now, Yale was one of three or four major centers for training in this field, and the only one with strong clinical as well as research orientation.

"I came here in 1965 to interview for a fellowship appointment," recalls Dr. Boyer. "I had hardly explained the purpose of my visit when Dr. Klatskin spied the box of liver biopsies I had brought from India. He'd been to India as well, and after examining my slides under the microscope in minute detail without saying a word, he launched into a full discussion of the subject, complete with background literature, as though he'd just prepared the most comprehensive review!"

Since the time of his fellowship, Dr. Boyer's main research interest has been the mechanism of the hepatic bile secretory and transport process.

"I saw an isolated perfused liver preparation make golden bile one day while I was a fellow, and have been fascinated ever since with how that process works in this cell system."

Recently, Dr. Boyer and his colleagues achieved a major advance in liver disease research by isolating a liver cell couplet — two liver cells joined together at the bile canaliculus, the site on the cell where bile is made. In collaboration with Drs. Anil Gautam, assistant professor of

medicine, and Dr. Jurig Graf, a physiologist from the University of Vienna, they have been able to obtain a definition of the electrophysiological events occurring at the site. This enables for the first time, the measurement of the secretory volume and an accurate determination of the driving forces for the movement of water and solutes from the liver cell.

Because of the complex anatomy of the liver, it previously was impossible to sample primary bile secretion at the level at which it is made.

"By the time we were able to collect the secretion, it had passed over several different cell types. It was like trying to understand the source of spring water from the Adirondacks by collecting the effluent of the Hudson River at Battery Park," explained Dr. Boyer. "The cell couplet system allows us to get directly to the source."

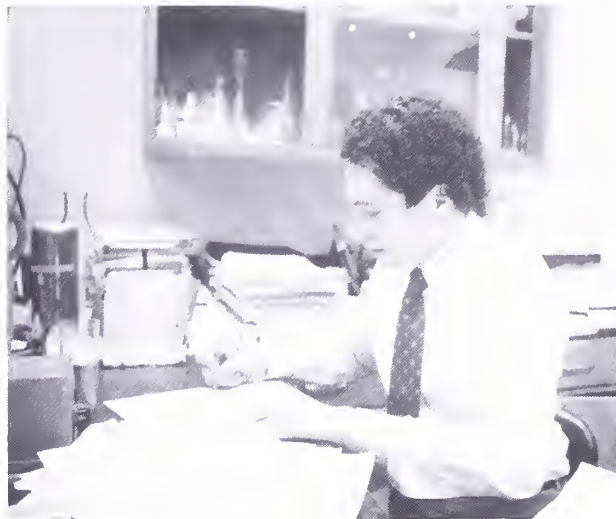
Production of bile is one of the liver's most important functions, and when it is injured by disease, this process is almost always impaired. With the cell couplet system, researchers now can determine whether or not an agent stimulates or inhibits the primary secretion. This should eventually lead to the development of more effective agents for stimulating bile secretion and modulating this important excretory function.

"The more we know about the normal process of the system, the better we will be able to understand and then correct the pathological physiology of the disease," explained Dr. Boyer.

William Carter



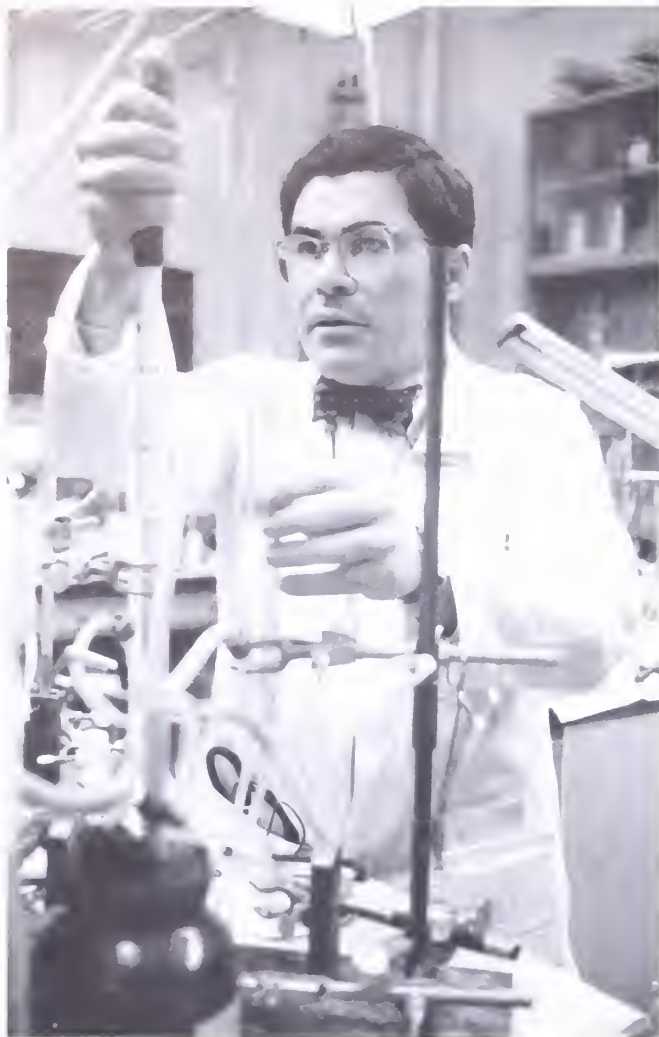
William Carter



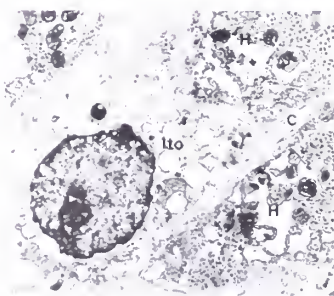
The focus of postdoctoral training is an acquisition of scientific skills and the application of these skills to important basic science or clinical problems related to digestive diseases. Dr. John Helzberg, above, also working with Dr. Gordon, is using the new technique of nuclear magnetic resonance spectrometry to assess the effects of alcohol on oxygen consumption by the liver.

The postdoctoral training program in the Digestive Diseases Division is one of the largest in the country, and attracts highly qualified individuals from the U.S. and abroad. In addition, Yale medical students and house staff receive training from faculty in the division.

Dr. Ellen Gordon, professor (adjunct) of research in medicine, and an internationally recognized biochemist (right) is conducting studies on hepatic bilirubin metabolism to identify the chemical nature and source of a recently discovered bilirubin metabolite to better understand liver metabolic abnormalities. Working in her laboratory as a postdoctoral fellow is Dr. Neil Smith (left), one of nine postdoctoral fellows in the Digestive Diseases Division supported by NIH training grants.



Dr. Henry Binder



Studies of the pathogenesis of liver cirrhosis by Dr. Bernard Davis, a postdoctoral fellow in the Liver Study Unit working in the laboratory of Dr. Joseph Madri, assistant professor of pathology, is an example of the caliber as well as interdisciplinary nature of training in both the GI and Liver Study Units. In an effort to understand the mechanisms of fibrogenesis, Drs. Madri and Davis have focused on a recently isolated cell, the Ito cell, which produces connective tissue and stores vitamin A. In particular, they are investigating the role of vitamin A in controlling the cirrhotic process.

Five years ago, the World Health Organization established the investigation and control of diarrheal diseases as one of the major goals for the next decade. Investigation into the causes and treatment of these diseases by Dr. Binder and Dr. Dobbins constitutes a significant portion of research interests in the GI Unit.

In 1982, Dr. Howard Spiro decided to devote a greater portion of his time to caring for his patients as well as directing the Humanities in Medicine Lecture Series, which he founded; Dr. Boyer had been appointed chief of the division that combined the liver and GI units, and Dr. Henry Binder, professor of medicine and director of the General Clinical Research Center at Yale, was named head of gastroenterology research in the division.

Dr. Binder, who had planned a career in GI diseases from the day he entered the New York University School of Medicine, came to Yale as a fellow in 1963, and with the exception of three years (two in military service), has been here ever since.

"Yale is a very stimulating place to be in terms of digestive diseases," he said, citing such colleagues as Dr. Spiro and Dr. Robert Donaldson, the David Paige Smith Professor of Medicine and acting chairman of the Department of Internal Medicine, who is a former president of the American Gastroenterology Association and editor for seven years of the journal *Gastroenterology*.

Dr. Donaldson and Dr. Cyrus Kapadia, associate professor of medicine, are conducting research to better understand the mechanism of transport of vitamin B₁₂ and other essential nutrients made available to the body through the intrinsic factor — a substance produced by normal gastrointestinal mucosa. This research, with implications for understanding peptic ulcer disease, is being done in laboratories in the Veterans Administration Medical Center at West Haven with support of a VA Merit Review Grant.

Dr. Binder's own research interest for many years has been mechanisms of diarrheal diseases and in particular, the role of the colon as a transporting organ in health and disease — especially diarrheal diseases. The thrust of his work has been to identify the regulation of colonic electrolyte transport to determine which agents stimulate absorption and which ones are associated with secretion.

In an investigation of the effects of corticoid steroids on the intestines, he demonstrated that glucocorticoids, previously thought not to affect electrolyte transport, have a very decided effect, and in fact, stimulate active cellular absorption. This research has led to the development of new treatment regimens with glucocorticoids, such as prednisone, for a variety of serious intestinal disorders including Crohn's disease and ulcerative colitis.

Research in the Division covers a wide range from basic research at the cellular and molecular levels to clinical trials at the bedside. . .

LIVER

Research into the pathophysiology and pharmacologic control of portal hypertension in patients as well as animal models is being done in the liver bloodflow laboratory at the VA Medical Center in West Haven. Directed by Dr. Roberto Groszmann, associate professor of medicine, this laboratory is a major research and training resource.

Also at the VAMC, Dr. Harold O. Conn, professor of medicine and chief of the Liver Disease Unit, Dr. Groszmann and Dr. Colin Atterbury, associate professor of medicine, are conducting therapeutic trials in patients with complications of chronic liver disease. They have demonstrated that drug and hormone therapy reduces portal hypertension.

Comprehensive interdisciplinary studies of the mechanisms of bile secretion and jaundice in the laboratory of Dr. James Boyer, professor of medicine and director of the Liver Center, led to the important discovery of the liver cell couplet culture system, enabling for the first time the sampling of primary bile secretion. This research is being done in collaboration with Drs. Anil Gautam, assistant professor of medicine and Dr. Jurig Graf, a physiologist from the University of Vienna.

Hepatic metabolic abnormalities are being investigated by Dr. Ellen Gordon, professor (adjunct) of research in medicine, and her colleagues in studies to measure the effects of alcohol on the energy level of the liver, and the differential effect of hepatic metabolism of alcohol in different areas of the liver lobule — an important problem relating to the development of alcohol tolerance.

In addition, Dr. Gordon has developed a research program to study mechanisms of hepatic bilirubin metabolism.

A special program in pediatric hepatology, organized by Dr. Caroline Riely, associate professor of medicine, includes clinical studies of the effects of intravenous feeding on hepatic function, the natural history of hepatic arterial dysplasia and the evaluation of non-invasive methods of assessing hepatic structure. The program also evaluates the incidence and causes of liver disease in pregnancy.

CLINICAL NUTRITION

Dr. Rosemarie Fisher, associate professor of medicine and director of the GI Unit at the VAMC, heads the recently established clinical nutrition consultative service of the GI Unit, and is responsible for promoting protocols for intravenous nutritional support for patients with digestive diseases in Yale-New Haven Hospital and the VA Medical Center.

GI TRACT

ESOPHAGUS

Dr. Morris Traube, assistant professor of medicine, is studying the mechanisms of swallowing and reflux to gain a better understanding of motility disorders such as swallowing difficulties and heartburn, which affect many people.

STOMACH

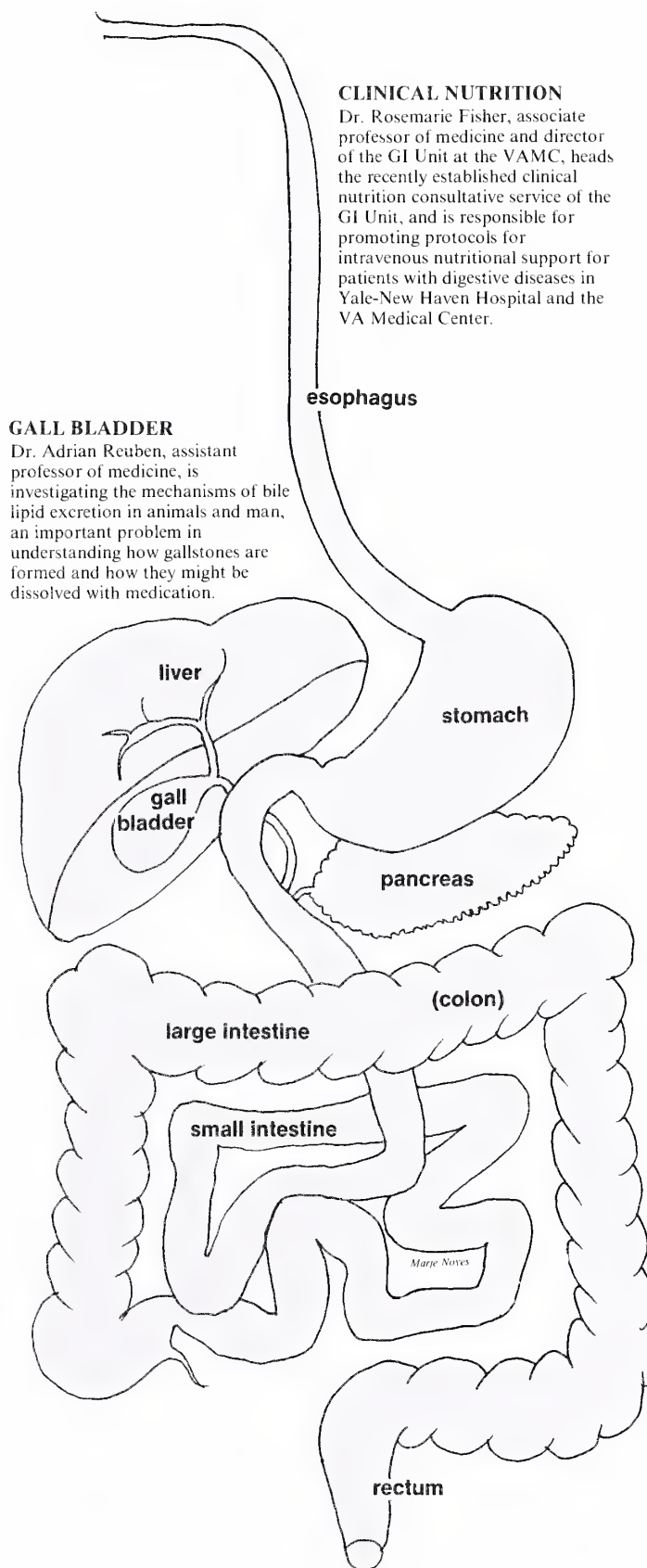
Research by Dr. Cyrus Kapadia, associate professor of medicine, and Dr. Robert Donaldson, David Paige Smith Professor of Medicine, is directed toward increasing knowledge about the intestinal transport of cobalamin (vitamin B₁₂) and the control of intestinal secretory function in the stomach that relate to peptic ulcer disease.

PANCREAS

In studies to learn more about the mechanisms of the pancreas, one of the least understood components of the GI system, Dr. Fred Gorelick, associate professor of medicine, in collaboration with Dr. James Jamieson, professor and chairman of the Department of Cell Biology, has undertaken a comprehensive study of the pancreatic acinar cell for a better understanding of the mechanisms involved in the release of secretory protein in the pancreas.

INTESTINES

Dr. Henry Binder, professor of medicine and director of research in the GI Unit, and Dr. John Dobbins, associate professor of medicine, direct a comprehensive program to study the mechanisms of absorption and secretion of fluid in diarrheal diseases in human patients and animal models. Dr. Dobbins' research is directed at the mechanisms and hormonal effects of electrolyte transport in the intestine; Dr. Binder has focused his work on intestinal peptide and corticosteroid receptors, and the mechanism of colonic potassium transport.



In addition to its important programs in research and training, the Digestive Diseases Division is a major tertiary care resource for digestive disorders in Connecticut and the northeast, from Boston to New York. The combined GI and liver outpatient clinics average over 2,000 patient visits each year.

This service will soon be greatly enhanced with the completion of a new, considerably enlarged clinical endoscopic center on the third floor of the Boardman Building. Directed by Dr. John Dobbins, associate professor of medicine, this Yale-New Haven Hospital facility serving physicians at Yale as well as from the community, will provide endoscopic procedures for biopsy, removal of stones by non-invasive techniques, cannulation and other procedures, such as liver biopsy, on an inpatient as well as outpatient basis.

When the Liver Research Center was established here a little over a year ago, Joyce Willig, co-chairman of the Connecticut Chapter of the American Liver Foundation, commented, "It is extremely heartening to know that a major center to find out what causes liver failure and how to prevent its consequences, has been established at a place like Yale."

Mrs. Willig, who is a liver transplant recipient, has been a patient in the Liver Study Unit for a number of years. She was referring to the fact that "bench" scientists doing the most basic research on digestive disorders work side by side with clinicians who care for patients. As a result, the most up-to-date information about the causes and treatment of diseases of the digestive system can rapidly be applied at the bedside.

For years, these scientists and clinicians have been working in incredibly cramped and outmoded facilities. The hospital's new endoscopic service is the first step in expanding and improving these conditions. Soon to be started are projects for a centrally located conference room to be named in honor of Dr. Spiro, and a library to house Dr. Klatskin's remarkable collection of more than 50,000 kodachromes from nearly 10,000 liver specimens — considered the most comprehensive and useful resource in the world for investigating the natural history of liver disease.

Further plans, awaiting funding, include enlarging and renovating offices and laboratories of both units.

"We look forward," said Dr. Boyer, "to the next few years, when, finally, space renovations will provide new facilities commensurate with the excellence of our faculty, staff and programs."

Marje Noyes



Dr. Fred Gorelick, associate professor of medicine, (left) combines basic research in the mechanism of the pancreas with patient care.

Center for Molecular Medicine to be Built at School

A New Research Matrix:

Yale and Howard Hughes Medical Institute join to create new Center

The School of Medicine, in cooperation with the Howard Hughes Medical Institute (HHMI), plans to create a \$25 million Center for Molecular Medicine that will provide a new facility in which basic and clinical researchers will work together to advance biomedical science and improve health.

The project represents an innovative approach to biomedical research and a major extension of the scientific collaboration between the School of Medicine and the HHMI. At the new center, Yale and HHMI researchers will work to discover how human cells function in isolation and in the context of whole tissues and intact organisms.

"This Center for Molecular Medicine will enhance the future of biomedical sciences at Yale and strengthen applications in health care," said Dr. Leon E. Rosenberg, the dean of the School of Medicine who has focused his own research on inherited metabolic disorders in children.

"We plan to create a new research matrix at Yale's Center for Molecular Medicine by organizing scientific research along programmatic rather than departmental lines," the dean said. "By bringing the laboratories of basic scientists and clinical investigators together, we hope to accelerate the translation of fundamental information about human biology into new preventive, diagnostic and therapeutic strategies."

To understand human biology at the molecular level and foster information flow between basic scientists and physicians, researchers will likely concentrate in these major areas: organization, regulation and expression of genes; cellular and molecular basis of the nervous system's function; carcinogenesis, or causes of cancer, with special emphasis on regulation of the cell cycle and the role of oncogenes; neuroendocrine modulation of homeostasis and behavior, and the study of the body's disease-fighting immune system.

"These endeavors share a common conceptual basis in modern advance cellular and molecular biology and depend in large measure on such powerful methodologies as recombinant DNA technology, characterization of protein structure and monoclonal antibody production," Dr. Rosenberg said.

In an agreement between Yale University and the Howard Hughes Medical Institute of Bethesda, Md., Yale will plan and construct the new 110,000 gross-square-foot medical research facility for Yale and HHMI to use.

Yale scientists and HHMI scientists, who will also be Yale faculty members, will conduct research in the building and will share core laboratories. These core laboratories, which will be available to the entire Yale medical school faculty, will generate state-of-the-art data on nucleic acid and protein chemistry. A hybridoma facility will produce monoclonal antibodies.

"This project exemplifies the Howard Hughes Medical Institute's purpose of promoting basic scientific knowledge in molecular genetics, immunology, metabolism and neuroscience," said Dr. Donald S. Fredrickson, HHMI president and chief executive officer of the Hughes medical research organization, a not-for-profit entity. He also is former director of the National Institutes of Health.

The Howard Hughes Medical Institute has earmarked \$15 million toward construction of the Center for Molecular Medicine. The construction funds comprise only a portion of the more than \$50 million which institute officials have allocated for medical research operations at Yale.

Yale is one of 22 academic medical centers where the institute conducts affiliated research programs, and these collaborations often involve the most advanced research. Yale and HHMI have been affiliated formally since 1977, just 24 years after Hughes, an aviator and industrialist, founded the institute (1953). Its funding and endowment comes from proceeds of the Hughes Aircraft Corporation sale.

The molecular medicine building will be constructed on University-owned land on the medical school campus and will connect with the Sterling Hall of Medicine. Yale officials estimate that the facility will be completed in 1989.

Yale University President A. Bartlett Giamatti has selected the New Haven architectural firm of Cesar Pelli & Associates to design the new center. Mr. Pelli was dean of Yale's School of Architecture between 1977 and 1984 and now is professor of architecture.

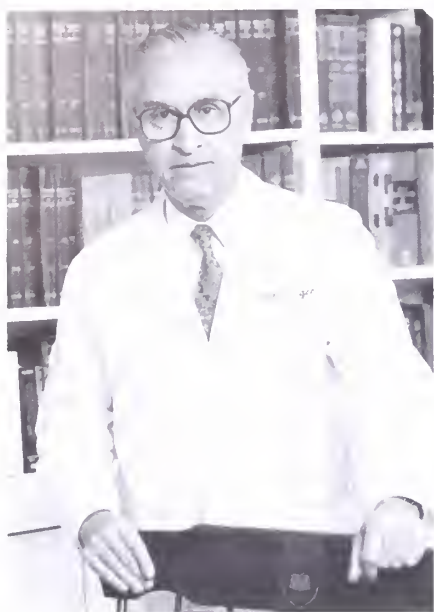
Dr. Fredrickson



Dean Rosenberg

Coordinating the Yale project is William C. Brainard, provost of the University and professor of economics. At the School of Medicine, Dean Rosenberg has appointed a special advisory committee to assist in planning the proposed Center for Molecular Medicine. Committee members include: Drs. Emile Boulpaep, chairman, Department of Physiology; William Konigsberg, chairman, Department of Molecular Biophysics and Biochemistry; George Palade, Sterling Professor Emeritus and Senior Research Scientist, Department of Cell Biology and special advisor to the dean; Robert M. Donaldson, acting chairman, Department of Internal Medicine and David Paige Smith Professor of Medicine.

Dr. Collins Appointed Chairman of Surgery



Dr. William F. Collins, Jr., a renowned neurosurgeon, has been appointed chairman of the Department of Surgery, effective immediately. Dr. Collins, the Harvey and Kate Cushing Professor of Surgery, has been acting chairman of the department since September 1984 and head of the Section of Neurosurgery since 1967.

"We are pleased that Bill Collins will continue to lead the Department of Surgery," said Dr. Leon E. Rosenberg, dean of the School of Medicine. "Not only is he a consummate neurosurgeon whose research into the understanding and treatment of pain is recognized worldwide, he is also an extremely capable administrator and loyal alumnus of this university and its medical school."

A native of New Haven, Dr. Collins received a B.S. degree in 1944 and an M.D. degree in 1947 from Yale. In addition to his studies on pain, he has focused his research interests on pituitary tumors and acute spinal cord injury, and has contributed over 100 papers on these topics to the scientific literature.

Following internship in surgery, then residency in neurosurgery at Barnes Hospital in St. Louis, Dr. Collins served two years as captain in the U.S. Army Medical Corps and was a fellow in neurophysiology at Washington University in St. Louis, before beginning his career in academic medicine as an instructor in neurosurgery at Case Western Reserve University in 1954. He was associate professor there, when in 1963 he was named professor and chairman of neurosurgery at The Medical College of Virginia in Richmond.

Dr. Collins returned to Yale in 1967 as professor and head of the Section of

Neurosurgery. In 1970, he was named the Harvey and Kate Cushing Professor.

The editor of the *Journal of Neurosurgery*, he is as well a member of a number of scientific societies including: American Surgical Association, American Academy of Neurological Surgery, American Association of Neurological Surgeons (member of the Board of Directors 1974-77), American College of Surgeons, American Physiological Society, AOA, Association for Research in Nervous and Mental Disease, Neurosurgical Society for America (president 1973-74), Research Society of Neurological Surgeons and the Society of Neurological Surgeons (president 1984-85).

New Psychiatric Service for Children Opens

A Children's Psychiatric Inpatient Service opened in November on Winchester I, is expected to serve as a national resource for children with serious psychiatric, behavioral or developmental disorders. Dr. Joseph Woolston, associate clinical professor in the Child Study Center and psychiatry is the director.

The result of long collaborative effort between the Child Study Center and Yale-New Haven Hospital, the 12-bed unit will offer diagnostic evaluation, crisis intervention and short-term treatment for pre-school through adolescent children with mental health problems such as severe eating disorders, depression, autism, psychosomatic illnesses, attention deficiency disorders, schizophrenia and Tourette's syndrome. Family involvement, as well as a school program are important elements in the treatment program developed for pediatric-psychiatric patients in the new unit.

New Yale President Committed to Scholarship and Professionalism

Benno C. Schmidt, Jr., the Columbia University Law School dean who was named Yale University's 20th president, has strong commitments to academics and scholarship, expressing the belief "that scholarly striving is the predicate of vigor in teaching."

At a December 10 press conference to announce his appointment, Mr. Schmidt reaffirmed his commitment to scholarship and said that "a great center of learning, such as Yale, must be strong in the sciences."

"One of Bart's (President A. Bartlett Giamatti) great contributions has been to strengthen Yale's commitment to the sciences, and that is a commitment that I will strive to maintain.

In his prepared statement, the 43-year old legal scholar said, "Yale is one of the signal achievements that is America. . . . As a place where knowledge is advanced, where scientific investigation and humanistic inquiry are nourished, where artistic creation is stimulated, Yale stands alone in importance in the world. . . .

"Yale's greatness carries an urgent need to guard against the fall of excellence into exclusivity, of refinement into preciousness, of elegance into class and convention."

Mr. Schmidt, who also is the Harlan Fiske Stone Professor of Constitutional Law, will return July 1 to Yale, where he graduated from the College in 1963 and the Law School in 1966.

A member of the Columbia Law School faculty since 1969, he is an internationally recognized authority on constitutional law, the history of the Supreme Court and mass communications law in the United States.

The president designate said that he will continue to speak out on scholarship and professionalism in Constitutional law, including freedom of the press, race relations, and problems of secrecy in national security. To those concerns, he said he would add speaking out on issues in higher education.

Library Acquires Cushing Letter

More insight on the late Dr. Harvey Cushing's pursuit of rare medical books may be gleaned from one of his letters that an anonymous donor has given to the Yale Medical Library.

Dr. Cushing, a neurosurgeon who helped shape the library collection, wrote the two-and-a-half-page letter to Jens Christian Bay, librarian of the John Crerer Library in Chicago, telling Bay that he collects books by Dr. Daniel Drake. "I don't possess a copy of the *Discourses of the Interior Valley*. I shall have to do (some scouring until) I find one in the original covers. If you ever run across one do let me know. I shall have your address bound and put along-side my Drake volume," Dr. Cushing writes encouragingly in his own hand.

About the letter, Ferenc A. Gyorgyey, historical librarian, said, "While Yale has the most complete collection of correspondence addressed to Dr. Cushing, letters in his own hand to his correspondents are scarce, and this one is in fine condition."

The two Drake volumes were purchased in 1936, just three years before Dr. Cushing's death. They are among the library's 30 some volumes by Dr. Drake, a scientist, physician and leader in medical education.

FACULTY NEWS

Dr. Albert J. Solnit, the Sterling Professor in the Child Study Center, Pediatrics and Psychiatry, was named the Sigmund Freud Visiting Professor at Hebrew University's Sigmund Freud Center in Jerusalem for the academic year 1985-86. He is one of the conveners of an International Symposium on "A Psychoanalytical View of Play and Trauma" being given at the center March 16 - 20.

At its annual meeting in November, the American Public Health Association presented **Dr. Myrna Weissman**, with the 1985 Rema Lapouse Mental Health Epidemiology Award for her "significant contributions to the scientific understanding of the epidemiology and control of mental disorders." The award established in 1972, is the only major award in the world for outstanding contributions to the field of mental health epidemiology. Dr. Weissman, professor of psychiatry and epidemiology, is director of the Depression Research Unit, a joint program of the Department of Psychiatry and the Connecticut Mental Health Center.

Dr. Dorothy Horstmann presented Part I of the Second Annual K.F. Meyer Lecture, "Can Poliovirus be Eradicated?" The lecture was held in December by the George Williams Hooper Foundation at the University of Southern California. Dr. Horstmann, John Rodman Paul Professor Emeritus of Epidemiology and Pediatrics, is known throughout the world for her pioneering research on poliomyelitis which led to the discovery of a vaccine for the disease. The title of her lecture was, "The Present: Epidemiological Realities and Challenges."

The 1985 Graham Eddy Endoscopic Award was presented to **Dr. Eiji Yanagisawa** for his videotape "Videolaryngoscopy — a Comparison of Fiberscopic and Telescopic Documentation." The tape demonstrates the physiology and pathology of the larynx using a flexible fiberscope and a rigid telescope. He also organized and presented two of his videotapes in the academic program of the Movie Session in Otolaryngology at the 1985 Clinical Congress of the American College of Surgeons, held in Chicago in October. In addition, Dr. Yanagisawa and **Dr. Martin Gordon**, associate clinical professor of medicine, served on the jury of the International Film Festival at the XIII World Congress of Otorhinolaryngology, held in Miami last May.

Shanghai First Medical College has named **Dr. Robert K. Yu**, as Honorary Professor, the highest honor of that university. Dr. Yu is professor of neurology.

The American Gastroenterology Association has presented the 1986 Morton Grossman Research Fellowship Award to **Dr. Fred Gorelick**. This prestigious award, which carries a stipend of \$30,000, supports junior faculty during sabbatical years and enables them to pursue research goals. Dr. Gorelick, associate professor of medicine, is investigating the mechanisms of the pancreas at the cellular level.

Dr. Bruce R. Pitt, associate professor of anesthesiology, has received an Established Investigatorship award from the American Heart Association. For a five year period, Dr. Pitt will be studying biochemical actions as they relate to high blood pressure and pulmonary vascular disease. The focus of the project is to develop a diagnostic test of pulmonary vascular pathology to be used in newborns and aid in understanding congenital heart disease.

The F. Paul Anderson Award for Scientific Achievement, the highest honor of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), was presented to **Dr. A. Pharo Gage**, professor emeritus of epidemiology, at a meeting of the society in San Francisco on January 20. A well known author, researcher and educator in the field of environmental physiology, Dr. Gage has made numerous contributions during the past 50 years to knowledge of the effects of indoor environment on human comfort and health. He is a fellow emeritus and consultant to the John B. Pierce Foundation Laboratory.

At the annual meeting of the American Epilepsy Society in December, **Dr. Richard H. Mattson** was elected president of the 1,250-member society of physicians, scientists and other professionals. Dr. Mattson, professor of neurology and chief of the neurology service at the West Haven Veterans Administration Medical Center, and his colleagues recently received a \$2.5 million, five-year multi-center grant from the VA Cooperative Studies group to investigate the treatment of epilepsy.

Dr. Peter S. Aronson was the first recipient of the Young Investigator's Award given annually by the American Heart Association and the American Society of Nephrology for outstanding nephrologic research. The award which includes a \$5,000 prize, was presented to Dr. Aronson, associate professor of medicine and physiology, at the annual meeting of the American Society of Nephrology, held in New Orleans on December 18th.

The 28th Murray S. Danforth Oration was delivered by **Dr. Wayne O. Southwick**, professor of surgery (orthopaedics) on November 14. The oration is presented each year by a distinguished orthopaedic surgeon during a three-day tenure as surgeon-in-chief *pro tempore* of the Department of Orthopaedics and Rehabilitation, Rhode Island Hospital, and Brown University. The title of Dr. Southwick's talk was "Cervical Spondylosis."

The American Public Health Association presented its 1985 Distinguished Service and Professional Achievements Award in Environmental Health to **Dr. Eric Mood**, associate clinical professor of public health (environmental health), for his research and teaching in environmental health and his contributions in international health programs over several decades. Dr. Mood, who recently retired after 25 years as a member of the Expert Advisory Committee on Environmental Health, WHO, is editor of *Housing and Health* soon to be released by the APHA. It includes a revised version of the APHA's and CDC's recommended minimum housing standards developed in 1952 under the leadership of the late professor C.-E.A. Winslow, the first chairman of the Department of Epidemiology and Public Health.

Dr. Kurt Stenn, professor of dermatology and pathology, was elected president of the American Society for Dermatopathology for a one-year term beginning December 1, 1985.

In November, **Dr. David Seligson**, professor of laboratory medicine, was visiting professor in the Department of Laboratory Medicine and Pathology at the University of Minnesota, and in December, in the Department of Laboratory Medicine at the University of California, San Francisco. The topic of his talks was bilirubin covalently bound to albumin, issues concerning laboratory medicine and resident training.

As the newly elected chairperson of the National Coalition of Arts Therapy, **Dr. David R. Johnson**, in November presided over the first conference of the six national arts therapy organizations representing over 12,000 art, music, dance, drama and psychodrama therapists in the country. Dr. Johnson is assistant clinical professor of psychiatry.

Dr. Clarence Sasaki, professor of surgery and head of the Section of Otolaryngology, has been appointed to the National Institutes of Health Study Section on "Sensory disorders and language." He is also president-elect of the New England Otolaryngological Society.

March of Dimes Awards Yale Researchers a Half-Million Dollars in Grants

The March of Dimes Birth Defects Foundation has awarded \$463,000 in grants to support projects by 21 Yale researchers designed to better understand the cause and improve methods for preventing and treating birth defects.

Statistics indicate that approximately one child in fourteen is born with a birth defect, ranging from prematurity and low birth weight to spina bifida. "Research is the key," said William Carey, president of the New Haven County March of Dimes, in announcing the grants, "and it is encouraging to see the March of Dimes Birth Defects Foundation backing so substantially the research being conducted at Yale."

The research includes a study of central nervous system maldevelopment by Dr. Karl Herrup, associate professor of human genetics; investigation into causes and treatments of brain hemorrhage in premature newborns by Dr. Laura Ment, associate professor of pediatrics and neurology; and basic research by Dr. Kay Tanaka, professor of human genetics, in isovaleric acidemia, a cause of infant death and retardation.

Other projects to receive funding from the March of Dimes include basic research on embryo development by Dr. Elizabeth Dolci, associate research scientist in cell biology; continuing fetal heart research by Dr. Charles Kleinman, associate professor of pediatrics and diagnostic radiology; and basic studies of damaged visual nerve pathways being done by Dr. Douglas Frost, assistant professor of neuroanatomy. Dr. Albert Reece, assistant professor of obstetrics and gynecology received a grant for his work on disruption of embryo development by various metabolic abnormalities of maternal diabetes, and Dr. Mark Mooseker, associate professor of biology and cell biology, was awarded funding for his research on cellular protein production.

Other Yale researchers to receive March of Dimes grants include: Dr. Michael Bracken, associate professor (adjunct) of research in epidemiology and obstetrics and gynecology; Dr. Mark Cullen, associate professor of medicine and epidemiology; Dr. John Hobbins, professor of obstetrics and gynecology and diagnostic radiology; Dr. Charles Greer, assistant professor of surgery and neuroanatomy; Dr. Robert J. Levenson, assistant professor of pathology; Dr. Maurice Mahoney, professor of human genetics, pediatrics and obstetrics and gynecology; and Dr. Jonathan S. Pollack, assistant professor of pathology. Other recipients include Dr. Frank Ruddle, professor of human genetics; Dr. Mrinal

Sanyal, research scientist in obstetrics and gynecology; Dr. David Scott, assistant professor of pediatrics; Dr. Margretta Seashore, associate professor of human genetics and pediatrics, and Dr. Sara Sparrow, associate professor in the Child Study Center.

New Procedure Extends *in vitro* Fertilization

Physicians at the School of Medicine will begin performing a rare procedure that they predict will increase pregnancy rates for infertile couples and decrease the chance of multiple pregnancies.

The new procedure combines cryopreservation, or freezing, of human embryos with earlier work in *in vitro* fertilization, now an accepted method to treat infertility, and embryo transfer.

Nationally, one in five couples is infertile, and the cause of the infertility is evenly divided between men and women, according to Dr. Alan H. DeCherney, the John Slade Ely Professor of Obstetrics and Gynecology, who will lead the medical team.

"Cryopreservation, potentially, could increase the universal pregnancy rate with *in vitro* fertilization and provide additional hope for those couples who desperately want to become parents," he said. This infrequently performed procedure, he believes, will benefit patients with tubal diseases, unexplained infertility, sperm antibodies and diseases of the membrane lining the womb or uterus.

Dr. DeCherney describes the procedure as "very technical. . . . The principle is simple, but technically it is difficult to freeze the embryos."

Basically, a woman's eggs are collected during a laparoscopy, an exam using an illuminated tubular instrument. In a petri dish, the eggs are fertilized with her husband's sperm as part of the *in vitro* fertilization process.

It is at this point that cryopreservation, the procedure's new dimension, occurs. The fertilized embryos are rapidly frozen and stored. "If embryos will withstand freezing and remain viable, the hardy embryos will survive," according to Dr. DeCherney. Later, an embryo may be thawed and transferred to the woman's uterus when it is most prepared to receive one. If the first attempt doesn't result in pregnancy, then the remaining embryos may be reimplanted.

Dr. DeCherney cites several advantages of the procedure. First, physicians will transfer no more than four embryos at a time to the woman's uterus, decreasing the chance of multiple pregnancies. "By saving some embryos through cryopreservation, additional embryo transfers may

occur without repeating the laparoscopy or ultrasound egg collection," he said.

This procedure also provides physicians and patients with opportunities for more flexible timing. "We can return embryos to a woman in 'unstimulated cycles', or at a time when she is not taking hormone medication that may prevent pregnancy," explained Dr. DeCherney. "We also may transfer the embryos at the normal developmental stage in the menstrual cycle and hopefully, increase the chance for pregnancy."

The Yale team plans to initiate this procedure because of previous success with *in vitro* fertilization, improvements in cryopreservation techniques and the adaptation or transfer of successful animal research to human beings, according to the gynecologist.

Since May 1983, Dr. DeCherney and the health care team have performed *in vitro* fertilization for couples, a prelude to this new procedure. More than 80 pregnancies have resulted, and the laboratory's fertilization rate has reached 80 percent of all eggs.

At present, cryopreservation of embryos and reimplantations are being performed in Australia, England, Holland and in the United States at the University of Southern California. For approximately ten years, reproductive and endocrine studies involving animals have been conducted to develop safe and effective procedures and to determine whether embryos will remain viable, and if so, for how long. In the U.S., this research has been extended so that embryo freezing has become the norm for breeding purebred livestock.

"What we have learned from animal studies, we now are ready to apply to humans to increase pregnancy rates," Dr. DeCherney said. "This gives us an opportunity to better understand human reproduction."

During the past seven months, the Yale team, coordinated by Dr. Jeffrey B. Russell, a fellow in reproductive endocrinology, has prepared to perform this procedure by familiarizing themselves with new equipment and techniques. They also have conducted extensive research with mouse embryos, testing freezing solutions and techniques of freezing and thawing embryos.

After careful consideration, the School of Medicine's 26-member Human Investigation Committee of medical and non-medical professionals, students and community representatives approved the procedure. The committee, chaired by Dr. Robert J. Levine, professor of medicine, developed specific guidelines, in conjunction with the gynecologists, to assure safety for both the women and the frozen embryos.

According to the guidelines, women will receive only their own frozen embryos, and only those couples in which the

husband has an adequate sperm count will be considered for the procedure. Frozen human embryos will be stored at Yale-New Haven Hospital for no longer than two years because there is not enough experience with long-term storage.

Although federal law permits research on embryos, no research will be conducted at Yale, according to Dr. Levine.

Revised Procedure May Prove a Major Step in Heart Attack Treatment

Yale researchers have been given the go ahead by the National Institutes of Health to streamline clinical trials that might yield significant results in the treatment of acute heart attack.

The crux of the revised procedure to rapidly dissolve blood clots in acute heart attack patients is the elimination of preliminary diagnosis by angiogram and immediate intravenous injection into the coronary artery of a new, more effective clot-dissolving drug. The drug, tissue plasminogen activator, (t-PA), acts to dissolve clots within 30 to 60 minutes after administration.

Previous studies demonstrated that the sooner after onset of heart attack symptoms clots were dissolved the better the prognosis for recovery. "We view this as a major step forward in the treatment of acute myocardial infarction," said Dr. Lawrence S. Cohen, the Ebenezer K. Hunt Professor of Medicine who is co-principal investigator of the trial with Dr. Charles K. Francis, associate professor of medicine. "Our studies have shown that it is important to dissolve clots within the shortest possible time after the onset of the attack. By eliminating the angiogram, we can save up to two hours."

Dr. Cohen stressed that the first four hours after onset of heart attack are the most critical. After that, the heart muscle is irreparably damaged.

The procedure is part of a major multicenter study of thrombolysis in myocardial infarction (TIMI) sponsored by the NIH for collaborative clinical trials of new treatment for acute heart attack. In 1983, the NIH awarded more than \$1.5 million to Yale to establish one of three core laboratories and a clinical unit for the TIMI study. Dr. Barry Zaret, the Robert W. Berliner Professor of Internal Medicine, is director of the core laboratory for radionucleotide evaluation, and Dr. Francis is principal investigator of the clinical unit of Yale's portion of the 12-center TIMI study.

Until recently, there was no drug available to dissolve blood clots in coronary arteries. The first such anticoagulant, streptokinase, proved effective when administered by catheter into the heart

muscle, but this procedure requires technology not available in many hospitals, thus limiting the use of the drug.

In the first phase of the TIMI study, the Yale research team observed clot dissolving properties of streptokinase administered intravenously. When t-PA became available for research purposes a little over a year ago, they compared it to streptokinase and found the new drug almost twice as effective in rapidly dissolving clots in coronary arteries. Moreover, because it acts specifically on clots with minimum effects on other clotting factors, t-PA reduces the risk of excessive bleeding.

The recent NIH decision to eliminate preliminary diagnosis by angiogram was based on results of treatment of 50 patients in Yale-New Haven Hospital and a total of almost 600 patients treated in the twelve medical institutions participating in the TIMI study. As yet, there is not sufficient data to demonstrate whether or not t-PA is superior to streptokinase in reducing mortality or improving the quality of recovery from acute heart attack.

The new anticoagulant is a synthetic agent produced by recombinant DNA technology. Still classified as an investigational drug, t-PA is available only to studies such as TIMI.

Because research to date underscores the importance of dissolving blood clots in the coronary artery early in the episode, Dr. Francis and his colleagues are optimistic about the potential for the revised procedure to greatly improve treatment of heart attack. The next step in their research will be to administer t-PA in combination with balloon angiography.

To be eligible for the treatment, patients must arrive at Yale New Haven Hospital within the first four hours after onset of heart attack symptoms, be under age 75, have no other life threatening disease or bleeding disorder, and their electrocardiograph reading must suggest they are having heart attack.

In addition to Drs. Francis, Cohen and Zaret, members of the research team include Dr. Frans Wackers, associate professor of diagnostic radiology and medicine, who is associate director of Yale's TIMI core laboratory, Caroline Piscelli, associate in research in medicine, and Joan Girard Amatruda, nurse specialist.

Menopause Study to Determine Hormone Impact

The effects of the ovarian hormones on women's functions, particularly upon sensory perception, during and after menopause, are being studied by researchers in the Department of Obstetrics and Gynecology.

Hormonal changes may markedly alter a woman's sense of touch, taste and smell, affecting her life at work and at home, the researcher say. The three-year study's ultimate goal would be to restore women to their normal functioning, according to Dr. Philip M. Sarrel, associate professor of obstetrics and gynecology and psychiatry.

"We hope to sort out the symptoms women experience, and to identify those which require estrogen replacement," said Dr. Sarrel, principal investigator of the \$700,000 multidisciplinary study funded by the National Institute on Aging.

Between 100 and 120 women will be evaluated for 22-week periods each, during which they will undergo a series of psychological, dermatological, neurological and physiological studies.

The team of investigators includes: Dr. Lawrence E. Marks, professor of epidemiology and psychology; Dr. William M. Glazer, associate professor of psychiatry and Dr. Irwin M. Braverman, professor of dermatology. Dr. Hal Morgenstern, associate professor of epidemiology and public health, is the program's statistical analyses consultant. Research assistants include: Mary Ellen Rousseau, a nurse practitioner; Valerie Abbott, assistant for psychological studies and Dr. Jean Bolognia, postdoctoral fellow in dermatology.

Hypothesis for New AIDS Treatment Evaluated

To halt the progression of Acquired Immune Deficiency Syndrome (AIDS), Dr. Nancy H. Ruddle has proposed interfering with the virus-infected cell's production of a protein called lymphotoxin.

Lymphotoxins are proteins with destructive characteristics normally produced by white blood cells to fight tumor cells. When produced in very high quantities, as they may be in AIDS, lymphotoxins cause the cell to self destruct, according to Dr. Ruddle, associate professor of epidemiology.

Should her hypothesis prove correct, Dr. Ruddle has proposed treatment that differs from the conventional therapy for AIDS, which is to try to restore T cells, the virus-infected white blood cells, after they are killed. Her approach focuses on interfering with the mechanisms that destroys the cells in the first place.

"If the lymphotoxins are responsible

for the pathogenesis, ... inhibit the pathogenesis, allow the system to recover for awhile and then try to deal with the virus," said Dr. Ruddle. Her hypothesis and proposals for possible treatment of AIDS appear in the January issue of *Immunology Today*, a British journal.

A protein of HTLV-III, the AIDS-causing virus, activates the host T cells, the white blood cells which HTLV-III infects, to produce the destructive lymphotoxins, according to Dr. Ruddle. "T cells can in fact be killed by a product they are making," she said.

Dr. Ruddle believes that lymphotoxins may cause several characteristics of AIDS, such as reduced body weight and a smaller number of circulating T cells. Lymphotoxins inhibit an enzyme essential for lipid metabolism, thus disturbing the digestion of certain foods, especially fats.

If her hypothesis proves correct, Dr. Ruddle proposes several ways to reverse the fatal course of the disease:

- Inhibit lymphotoxin activity either by adding an antibody to it or binding it so it doesn't feed back on the T cells and kill them.

Block the receptor, or the site of attachment, for lymphotoxin in the T cell.

"If you understand what components make up the receptor, then you can actually present the patient with those components in a high enough quantity to compete with the receptor for lymphotoxin," Dr. Ruddle explained.

The receptors have already been shown to contain certain sugars to which lymphotoxins will bind, she added. With an understanding of the protein structure of the receptor, agents could be introduced to stop the lymphotoxin from binding to the receptor and killing the cell.

Dr. Ruddle applied for a patent and has prepared a proposal for a grant to develop research at Yale that would test her hypothesis regarding lymphotoxin production in AIDS. The T cells, it seems, may be producing lymphotoxins in an "inappropriate fashion."

Thus far, Dr. Ruddle has tested the serum of 12 AIDS patients for lymphotoxin content. The serum of some 100 AIDS patients will be tested by the study's end. Of the 12 tested, eight have contained the destructive protein. Furthermore, Dr. Ruddle obtained growth media of HTLV-III infected lymphocytes and non-infected lymphocytes from non-AIDS patients. She found that the cells infected with the virus produced lymphotoxins.

Dr. Ruddle obtained the growth media from Dr. Lee Ratner, an M.D., Ph.D., graduate from Yale, who is assistant professor of hematology and oncology at Washington University in St. Louis. The test results, although preliminary, support her hypothesis, according to Dr. Ruddle.

WILLIAM M. LESSER, Ph.D.

William M. Lesser, Ph.D., director of psychological training at Waterbury Hospital Health Center, died suddenly on June 28, 1985 at age 53. Dr. Lesser graduated from the Bronx High School of Science, received his bachelor's and master's degrees from the City College of New York, and his doctorate from Michigan State University.

An assistant clinical professor of psychiatry and a member of the executive committee of the Section of Psychology at the Yale School of Medicine, he was a Diplomate in Clinical Psychology of the American Board of Professional Psychology, and a member of the American Psychological Association. He was active on various committees and served two terms on the Board of Directors of CPA. In private practice in Torrington, Connecticut, he was a consultant to the Connecticut Junior Republic, the Northwest Child and Family Services and Lark Institute.

Dr. Lesser's civic interests included volunteer services to Litchfield Hospice and the American Cancer Society. He was actively involved in the American Field Service of Litchfield, and for many years, headed a committee to locate host families there for foreign students. He was a member, trustee and past-president of the Litchfield B'nai B'rith in Torrington. S.B.

BENEDICT R. HARRIS, M.D.

Dr. Benedict Harris, clinical professor emeritus of medicine and public health died on November 3, at the age of 86.

Ben Harris had a long and distinguished medical career. Following two older brothers who also received their M.D.'s from Yale, he had his house staff training at New Haven Hospital from 1922-24. He did postgraduate work in cardiology at Johns Hopkins and at the Herzstation in Vienna, after having been an instructor in medicine at Yale from 1924 to 1927.

Dr. Harris returned to New Haven to practice internal medicine and cardiology from 1929 to 1967, during which time he developed a reputation as a superb clinician and teacher and rose to clinical professor medicine in 1961. From 1959 to 1967, he was associate chief of medicine at the Grace-New Haven Community Hospital. In charge of the Community Medicine Division, he molded this into an integral part of the Department of Medicine and began the difficult task of bringing together the community physicians, the hospital and the medical school by his effective and trustworthy leadership.

In 1964, he was appointed clinical professor of medicine and public health (medical care) when he became associated with Dr. Isidore Falk in the project "Performance of a Study to Develop Standards for Audit of Medical Services" which became the basis for what we know today as Diagnostic Related Groups (DRGs). In 1965, he became the first medical director of the Sound View Rehabilitation Center, an expression of his interest in care for patients still needing professional attention after hospital discharge.

At the time of his retirement as associate chief of medicine in 1967, the first year assistant residents in medicine, a perceptive and critical group, honored him by establishing the Benedict R. Harris Award. It is given annually to the community physician who contributed the most to the education of the medical house staff.

However, Dr. Harris was far from ready to retire from medicine. From 1967 to 1969, he was chief of medicine at the Atomic Bomb Casualty Commission in Hiroshima, Japan, as well as principal investigator of the Department of Collaborative Studies of the National Heart Institute -NIH for Japan. As a Navy lieutenant commander in 1945, he had been among the first medical personnel to enter Nagasaki to offer medical care following the atomic bomb explosion there. On his return from Hiroshima, he resumed his private practice in New Haven and did not retire completely from medicine until 1983.

He is survived by his wife, Pearl, his two daughters, his five grandchildren and his great-grandchild, S.D.K.

Dr. Ernst M. Mylon, associate professor emeritus of pathology, died at his home in New Haven on October 15 following a long illness. He was 90 years old.

Born in Schneidemuehl, Germany, he received his doctor of medicine degree from Friedrich Wilhelm University in Berlin in 1920. Prior to coming to the United States, he held faculty posts in Berlin and subsequently, at the University of Belgrade, Yugoslavia.

Dr. Mylon came to New Haven in 1938, when he was appointed a special research fellow in pathology at Yale. The following year, he became a research assistant in pathology, with the rank of assistant professor. He was elected to the Yale chapter of Sigma Xi in 1940, and in 1944, he was promoted to research associate with the rank of associate professor. From 1951 until his retirement in 1963, he was an associate professor on the regular academic faculty.

Dr. Mylon was appointed Director of Laboratories at the Lawrence and Memorial Hospitals in New London in 1951 under a contract with Yale, and developed a residency training program there. Although he held his post at New London until his retirement, he continued to teach medical students in the pathology course at Yale. Dr. Mylon was the author of numerous scientific publications, particularly in the field of vascular pathology.

The husband of the late Hildegard Joseph Mylon, he is survived by a daughter, Inge Yaffe of Thomaston; a son, Peter Mylon of Syracuse, New York; six grandchildren and a great-grandchild.

Memorial contributions may be made to the Professor Ernst Mylon and Hildegard Mylon Scholarship Fund at the Yale School of Medicine. A.E.

Cecil John Hodson, professor emeritus of diagnostic radiology, died at his home in Sussex, England on December 2, after several months of illness.

Born in England, John Hodson received his medical training in London. During World War II, he served in Britain's armed services in North Africa and Italy as an officer of the Royal Army Medical Corps and was cited for outstanding performance.

He began his academic career in 1946, and as a chest radiologist, made several original and important observations, primarily concerned with pediatric thoracic disease. At the end of 1949, he became deputy director of the X-ray Diagnostic Department at University College Hospital, London and became director of that department in 1961. He left London in 1970 to become professor of radiology at Memorial University of Newfoundland in St. Johns.

Dr. Hodson joined the Yale faculty in October 1975 as professor of radiology and head of the Renal Section. He became professor emeritus in July 1984.

During his distinguished career Dr. Hodson served as secretary and diagnostic vice president to The Faculty of Radiologists in England. As chairman of the museum board of The Faculty, he was personally responsible for initiation of one of the largest X-ray museums in the world. He also was advisor in radiology to the Minister of Health for three years, and in 1981, was awarded an honorary fellowship in the American College of Radiology.

Dr. Hodson had an extremely productive career which is reflected in the approximately 100 original publications and chapters in books, and many speaking engagements at national and international meetings. Although in his brief term as a chest radiologist he made several original and innovative contributions to the field, his major research interest — spanning a period of 25 years — was concerned with the kidney. These endeavors led to his defining a new entity, reflux nephropathy — a classical model of what a long-term investigation should be.

With imagination, background knowledge, persistence, hard work and novel experimental design, Dr. Hodson defined and revolutionized medical perception of the entity, despite considerable resistance

from those holding to established doctrine. This work will probably save many children from irreversible kidney disease, provides a firm basis for therapy and represents a real and valuable contribution to medicine — one that will have lasting effects.

His quiet determination, high standards, excellence as a radiologist and physician and absolute honesty were inspirational to those who knew and worked with Dr. Hodson. His interests were not only in medicine and kidney disease. He was an excellent sailor, an enthusiastic climber and a member of the Alpine Ski Club. An avid rugby player, Dr. Hodson was coach to the Yale rugby team before his illness. He was also an amateur singer of some repute.

John Hodson could best be classified as a giant of a man in all ways. Those who knew him well, personally feel an intense loss at his death. The Yale Department of Diagnostic Radiology is in the process of establishing a yearly lecture in his memory.

R.H.G.

A pleasant tradition of the past is revived — informally



then...

A long table set with a fresh cloth and magnificent brass candlesticks was laden with plates of sweets and sandwiches. Tea from handsome samovars at either end was graciously served in china cups and saucers by medical school faculty wives and their friends.

Small groups of professors and students and their guests were gathered in amiable conversation. Everyone in the Yale medical community was welcomed.

The faculty-student teas held every weekday from October to March, were started in the '40s by Dean Milton Winternitz, reportedly to provide medical students with at least one good meal a day and to teach them "the social graces."

Most students then lived in three shabby apartment buildings on Howard Avenue or in boarding houses scattered throughout the city. There were only a couple of inexpensive restaurants in the neighborhood, and opportunities for students to get together socially were few and far between.

"I suspect the refreshments served at the teas were almost the only supper some students had many days," observed Dr. Thomas R. Forbes, the Ebenezer K. Hunt Professor Emeritus of Anatomy. Dr. Forbes' wife Helen, and Mrs. Vernon Lippard, the wife of Dean Lippard, managed the teas

for more than a decade.

The students were in luck, recalls Dr. Forbes, who was assistant, then associate dean for students from 1948 to 1968. "There was the atmosphere of an informal tea party. Faculty ladies from the various departments in the medical school and their friends arranged an attractive table, welcomed the guests and poured countless cups of tea. They all seemed to enjoy themselves."

In a letter written to Mrs. Forbes in 1954, Mrs. Lippard noted that tea was served on 99 days that year to 15,933 persons — with an average attendance of 161 each day, at a cost of five-and-a-half cents per person! "Judging from the numbers who come and from what individual students have said, the teas are very much appreciated indeed," she said.

Times and attitudes change, and seven years later, the wives of the Board of Permanent Officers reluctantly decided to discontinue the daily teas, at least temporarily, because attendance had dwindled away. The Edward S. Harkness Hall, completed in 1956, with its spacious dining room and comfortable lounge replete with wood panelling, fireplace and a grand piano, provided students with nourishment and social amenities the teas had so graciously given them over the years.



and now

William Carter



Marje Noyes

In the 20 years since, faculty and student numbers have almost doubled; many students again live off campus and feel the need for more "interaction, understanding, knowledge and friendship between faculty and students." In January 1983, at the request of a committee of first- and second-years students, Dean Robert Berliner revived the teas.

What they lack in grace and elegance, the department-sponsored gatherings held in the Beaumont Room on the first Thursday each academic month, make up for in imagination. Once the Beaumont Room was marvelously transformed into a disco - complete with flashing lights and music. But mostly the entertainment is, as in days past, gathering together in pleasant conversation.

Jugs of wine and cider and cans of soda have replaced tea served in stately samovars. Refreshments prepared by students may include cookies and sandwiches, but are just as likely to be scoops of homemade ice cream or baskets of fresh strawberries (in December!) with pots of hot fudge sauce to dip them in. Guests help themselves, and dress is decidedly informal.

As in teas of the '40s and '50s, though, the mood is warm and friendly and everyone has a good time.



Dr. Thomas Forbes, right, enjoyed the earlier teas, and appears also to enjoy the recent versions.



A New Policy for Alumni Children Applying for Admission

What is the School's policy with regard to applications for admission from children of medical school alumni? The question is frequently asked, and this policy has been under careful review during the past year by Dean Rosenberg and members of his staff.

Dr. Robert Gifford, associate dean for medical education and student affairs, has discussed the current policy with various alumni groups during the past fall. He feels that all alumni should be acquainted with the current policy. Our alumni leaders concur, and that is the reason for this report.

Dr. Gifford has said that he will personally follow up on the application of anyone identified as the child of an alumnus or alumna of the medical school. As of the current year, all children of Yale

medical school alumni who apply for admission will be granted an interview. The interview will be given by members of the Admissions Committee or by the Associate Dean for Medical Education and Student Affairs. The associate dean also serves as an ex-officio member of the Admissions Committee and can bring all of the necessary information to the attention of that body.

Since there are close to 3000 applications each year, only five or six hundred of the most qualified regular applicants can be interviewed. From this pool, the Admissions Committee usually accepts about 200 of the top candidates in order to fill the class of 102 students. Thus, only one out of every 15 is accepted, and one out of every 30 applicants is eventually enrolled. As you can see, this

is an extremely competitive business and many well qualified candidates will have to be turned down.

However, all children of medical school alumni will now be automatically interviewed, bypassing the usual screening procedure. Of course, all final decisions regarding admission will remain with the Admissions Committee.

We hope that the school's new policy regarding alumni children, and Dr. Gifford's personal contacts with these applicants and their families will help soothe some of the unhappiness and disappointment of those alumni whose children are not accepted.

Letters commenting on this report are most welcome. They should be sent to the Editor, and will be shared with Dr. Gifford and the alumni leadership.

CLASS NOTES

1929

On October 6, Kay and **Russell Scobie** celebrated their fiftieth wedding anniversary. The event was marked by an organ recital and reception at Calvary Presbyterian Church in Newburgh, New York. Just prior to this event, a planting honoring the Scobies for their loyalty and service to the community was dedicated in the local historic park.

1944

Robert Cooke has been appointed chairman of the Department of Pediatrics at the State University of New York at Buffalo. He is also pediatrician-in-chief at Children's Hospital of Buffalo.

Dr. Cooke is a board member for the International Special Olympics, the Association of Retarded Children in Erie County and the Encyclopedia of Bioethics and is chairman of the Scientific Advisory Board of the Joseph P. Kennedy, Jr. Foundation. He is a past president of the Society for Pediatric Research.

He has held the positions of president of the Medical College of Pennsylvania, vice-chancellor for health affairs at the University of Wisconsin and pediatrician-in-chief at the Johns Hopkins Hospital. Dr. Cooke is the father of six children; he and his family live in Orchard Park, N.Y.

1946

Donald Shedd, at Roswell Park Memorial Institute in Buffalo, New York, writes that he was a guest speaker at a meeting on head and neck surgery held in Goiania, Brazil, near Brasilia, last May. He is co-editor of a new book concerned with recent results of basic research and treatment of head and neck cancer, "Proceedings of the First International Conference of the Society of Head and Neck Surgeons and the American Society for Head and Neck Surgery". It was published in August by B.C. Decker, Inc.

1947

At recent inaugural ceremonies of an International Conference on Thalassemia held in Bangkok, **Amos Chernoff** was honored as a founder of thalassemia research in Thailand. A "Citation of Recognition" was presented to him by H.R.H. Princess Maha Chakri Sirindhorn on behalf of her father, His Majesty Bhumidol Adulyadej, King of Thailand. Dr. Chernoff, a resident of Potomac, Maryland, is currently director, Division of Blood Diseases and Resources, National Heart, Lung and Blood Institute, National Institutes of Health.

1948

A profile of **Boy Frame**, which appeared in the American College of Physicians' *Observer* in September, summarized Dr. Frame's career, noting him as one of the top specialists in bone and mineral metabolism in the country. A few months previously, he had been named chairman of the Department of Medicine at Henry Ford Hospital in Detroit; he is also clinical professor of medicine at the University of Michigan Medical School.

Dr. Frame's civic support is evidenced by his work with the Detroit Lions. From 1965 to 1975 he conducted all physical examinations of the players, coaches and management and for about eight years, traveled with the team.

Dr. and Mrs. Frame have three children, the oldest of whom is also a physician. "One of the most pleasant experiences of my life," he says, "was working with Rick in the hospital, doing rounds together."

He has also been very actively working with other young physicians — first as ACP Governor for Michigan (he was named Governor of the Year in 1981), and now as Regent, he has been a prime mover in the Associates' program which has become fairly well integrated into the College, both at the local and the national level. This development is, in his opinion,

necessary for the continued growth of the College.

Although he claims not to have made any outstanding contributions, he notes, "I have been interested in metabolic bone disease, particularly some of the more unusual and rare forms, and I have had the opportunity to see patients with certain diseases that were so rare that they had, up to that time, not been recognized. My associates and I were able to carry out certain investigations and studies, particularly bone biopsy interpretation, in order to understand the nature of underlying bone disease."

1959

In the November 1985 issue of *Surfer* magazine, **Malcolm Ing** was one of several Honolulu residents who were featured as having an avid interest in the sport of surfing outside of their professional careers. Dr. Ing, who is chief of Ophthalmology at the University of Hawaii and

at Queen's Medical Center as well as president of the Hawaii Ophthalmological Association, has been a surfing enthusiast since he was 15 and recalls his most memorable surfing experience which was in 1967, when he rode alone at Honolua Bay in double overhead waves. His interest has not wavered over the years and in addition to the pleasure of the sport itself, he considers surfing to be "one of the best ways of dealing with the stresses of daily professional life. When I'm sitting on my board late in the day, I get to watch the moon come up over Diamond Head, a rainbow in Manoa Valley and a beautiful sun setting over the Waianae mountain range — the effect of this activity is indescribable except to say that it stabilizes my mind and body after a day in the operating room." Dr. Ing advises young surfers "to remind themselves that the body is the temple of the soul and that if they keep it in good shape, they ought to be able to go on surfing well into their seventies and eighties — just as I plan to do."

1961

Roland Paegle and his wife, Grazina, were in New Haven last spring for the 30th reunion of Roland's Yale College class. A recent letter notes that he thought the co-ed arrangement at his alma mater was a marked improvement over the males only policy during his college years. During his reunion visit, he also had an opportunity to visit the School of Medicine. The Paegles have been located in Marion, Indiana for the past two years.

1963

Jon Fessel, who has been in private practice in the New Haven area for 15 years and is assistant clinical professor of medicine at Yale, has been appointed chief of internal medicine at the Yale Health Plan.

1952



A class note in the fall issue told of recent activities of Willard and Siegfried Centerwall and of various honors they have received. The photograph (left) received subsequently shows the Centerwalls at the memorial to Dr. Asbjorn Folling, the Norwegian physician and biochemist who discovered phenylketonuria 50 years ago. The Centerwalls participated in the dedication of this memorial in Norway last June and were honored for their work in the 1950's with dietary treatment of PKU and the first early infancy testing programs for this disorder.

NOTE: The Yale School of Medicine Office of Alumni Affairs has relocated to the Suite 3D, Sterling Apartment Building, 350 Congress Avenue. The mailing address remains: Office of Alumni Affairs, 333 Cedar St., P.O.Box 3333, New Haven, CT 06510; phone (203) 785-4674.

Constance Q. Tolliver has been named assistant to the director of the Office of Alumni Affairs.

1968

Grace Jordison Boxer, who is associate chief of staff for education at the Ann Arbor Veterans Administration Medical Center, was one of 60 participants selected to attend the prestigious Leadership VA training program. Leadership VA is designed to identify gifted leaders in the Veterans Administration and to enrich their career development through an intense year-long leadership training period. She and her husband, **Laurence Boxer** ('68 IIS), who is director of Pediatric Hematology-Oncology at Mott Children's Hospital and professor of pediatrics at the University of Michigan School of Medicine, live in Ann Arbor with their nine-year-old son, David.

1969

Charles Dinarello was the Elisha Atkins Visiting Professor at Yale School of Medicine in February and lectured on "Changing Concepts of the Pathogenesis of Fever." Dr. Dinarello is professor of medicine and pediatrics at Tufts University School of Medicine in Boston.

Elliot Livstone, who was associate professor at Yale before leaving to practice gastroenterology in Sarasota, Florida, was the major guest lecturer at the First Norbert Schnog lecture at the Yale Comprehensive Cancer Center in September. He spoke on "Pancreatic Cancer: Current Status and Prospects for the Future."

Dr. Livstone noted that because pancreatic cancer produces only vague symptoms and there is no adequate screening test for it, the disease is usually discovered in an advanced state. Reporting on clinical trials now underway for this disease, he discussed the different kinds of chemotherapy being used and stated that the combined therapies have prolonged survival for many people.

"The future," Dr. Livstone said, "is in using monoclonal antibodies both for finding the tumors and for treating the disease. New imaging technology should also help us find pancreatic cancer earlier."

Norbert and Sue Schnog of Westport, Connecticut, sponsored the lectureship at Yale Comprehensive Cancer Center, where Mr. Schnog has been under treatment for pancreatic cancer. They have established the lectureship to help foster an attitude of positive thinking in the medical community so that physicians will focus on ways to treat the disease and to help stimulate additional research by increasing communication among those who are already working in this area.

1974

Frank Brown is director of Medical Affairs at Neema Emergency Medical, a primary care physician group and management services firm based in Philadelphia. He wrote that he has been appointed chairman of The American College of Emergency Physicians' national Membership Constitution and By-Laws Committee. For the past two years, Dr. Brown has served as the College's project director for International Membership Affairs.

1977

Ricky Schneider of Bryn Mawr, Pennsylvania has been elected to fellowship in the American College of Cardiology. Dr. Schneider is director of nuclear cardiology and assistant professor of clinical medicine at Presbyterian-University of Pennsylvania Medical Center in Philadelphia.

Harvey Berger wrote that on February 1 he became Senior Vice President of Medical Affairs and Director of the diagnostic imaging and immunotherapy programs at Centocor, Incorporated. He noted that Centocor has, since its founding in 1979, been committed to the development of unique radiopharmaceuticals and therapeutic products based on monoclonal antibodies and to strong collaborations with academic institutions. Dr. Berger also will be a member of the Nuclear Medicine faculty at the University of Pennsylvania.

1982

Craig Lewis wrote recently: "I am now completing my first six months of a three-year commitment with the National Health Service Corps in Yap State of the Federated States of Micronesia, where I am practicing internal medicine. Yap hopes that an internist on island may decrease the need for costly referrals. I am discovering with some surprise, that quite good medicine can often be practiced without knowledge of anion and osmolar gaps. Of greatest excitement to me have been seafaring excursions to the dispensaries of the little known outer island atolls for both emergency care and routine support. I would strongly encourage a Third World experience for anyone in medicine so inclined."

1984

Dan Oren is the author of "Joining The Club: A History of Jews and Yale." This book, the product of ten years of research, was published in February by the Yale University Press. The study began as a term paper when he was a sophomore in Yale College in 1976 and in his senior year was expanded to a history thesis. With encouragement from his professors and help of the American Jewish Archive, he decided to write the book while he was a medical student and finished it about the time he received his M.D. degree. The book documents the dark history of anti-Semitism and discrimination at Yale which, along with Harvard, Princeton and other prestigious educational institutions, was considered to be "the club" in American social hierarchy. There is comment about the School of Medicine admissions policies instituted under the aegis of Dean Winternitz.

Dr. Oren is currently a postdoctoral fellow in the Yale Department of Psychiatry.

PUBLIC HEALTH

1973

As of October 21, **Thomas Stranova** of North Easton, Massachusetts became dean for administration at the Tufts University School of Medicine in Boston. He has been associate director and chief executive officer in hospitals in Wisconsin, California and Indiana and most recently, chief executive officer at the Veteran's Administration Medical Center in Brockton, West Roxbury. A lecturer at Harvard Medical School, he was also on the clinical faculty of the Harvard University School of Public Health.

Mr. Stranova is a board member of the Association of American Medical Colleges' Council of Teaching Hospitals and is a member of the Governor's Health Coordinating Council for Massachusetts.

Within the VA system, he had been on the VA Management Information Systems Task Force, and the VA Strategic Management Task Force.

Mr. Stranova and his wife, Mary, have three children — Thomas J. Jr., 14; Nichole, 8; and Dana, 5.

HAVE WE HEARD FROM YOU?

We'd like to. Please send news of awards, recent publications, professional appointment or other items of interest to the Editor, *Yale Medicine*, P.O. Box 3333, 333 Cedar Street, New Haven, CT 06510

A TIME OF CHANGE

IN MEMORIAM

Ella Wakeman Calhoun November 27, 1985	'21 M.D.
Benedict R. Harris November 3, 1985	'22 M.D.
Julius A. Olean November 18, 1985	'23 M.D.
Saul Schapiro December, 1985	'23 M.D.
William J. Logan November 15, 1985	'25 M.D.
Rebecca Proctor April 10, 1985	'31 M.D.
Russell A. Anthony August 23, 1985	'42 HS
Mrs. Edith M. Blakeley June 15, 1985	'46 M.P.H.
M. Otis Flanary September 27, 1985	'49 M.P.H.
John P. Lamb, Jr. 1981 (?)	'49 M.P.H.

In his "State of Our School" address to the faculty in September 1984, Dean Leon E. Rosenberg said, "If you join me in aspiring to be vibrant as well as vital, and to soar as well as be sound, then we must strive even harder for excellence and be prepared for change. It is this challenge of change which I see as the major agenda item of my deanship and it will take many forms."

In fact, in the ensuing two years, there have been many changes, and some of the most visible are quickly noted by alumni when they return to the School to find an old building finely renovated for a new use, or a building under construction on a parking lot. The pounding of jack hammers and screech of skill saws that has become part of the environment here, will go on as our school continues to improve and expand its facilities to remain at the forefront of medicine of the future. Some of the projects begun in 1984 are nearing completion; others, such as the new Center for Molecular Medicine and expansion of the Medical Library, are still on the drawing board.

It is a time of change and a time of excitement.



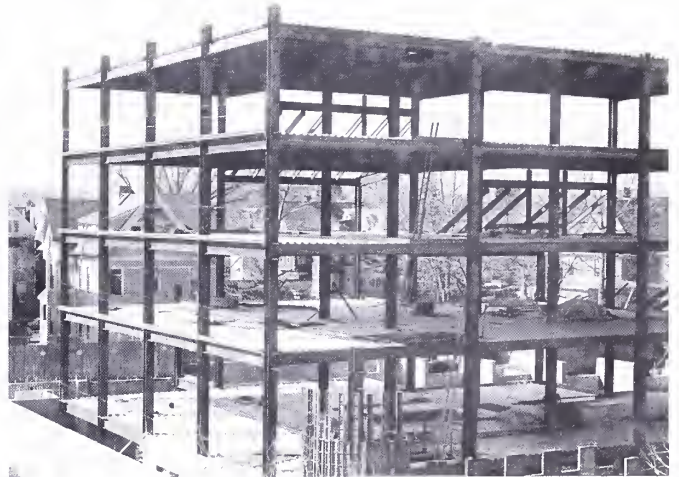
David Yakoubian

On April 10 and 11, a major symposium on "Perspectives in the Management of Eye Diseases" will celebrate the opening of the Yale Eye Center for Clinical Research in the completely renovated Boardman Building. The \$2.5 million project is the culmination of 23 years of planning by Dr. Marvin Sears, right in photo, who has been chairman of the Department of Ophthalmology and Visual Science since it was founded in 1971. A regional, national and international referral resource, the Eye Center will be the only facility of its kind between Boston and New York for persons requiring diagnosis and treatment of eye disease.

Katie Krauss



Marje Noyes



On a chilly day in February, the new nine-ton magnet for the Magnetic Resonance Center was hoisted into the mostly underground addition to the LCI building at the corner of Davenport and Howard Avenues. The MR Center, a joint project of the medical school and Yale-New Haven Hospital, will bring together Yale's research and clinical activities in magnetic resonance technology—considered one of the most important developments in medicine in this decade. The building including offices, laboratories and patient care rooms, will be equipped with two whole body scanners, a small animal instrument and a high field spectrometer. The four magnets will have a combined strength of almost 450,000 times that of the earth's magnetic field.

Across Howard Avenue from the MR Center, the Yale Center for Ambulatory Medicine is becoming a reality. The facility, which will consolidate clinics and offices of the Yale Faculty Practice Plan currently scattered in 17 locations throughout the medical center, is expected to attract individuals on an outpatient basis from a wide geographic area for specialty and consultative services. The estimated completion date for this project is February 1987.

ALUMNI WEEKEND 1986

HIGHLIGHTS

subject to change

FRIDAY, JUNE 6

- 8:30 **Medical Alumni/ae Registration**
- 1:00 -3:00 **Yale School of Medicine Class of 1961 Reunion Seminar**
"Retrospective and Prospective Views, Twenty-five Years after Graduation." Speakers to include Kenneth Arndt; David Brook; Philip Felig; Marguerite Stein Lederberg; Robert Levy; Vincent Marchesi; Charles Sachatello; Robert Taub; John Weil; Warren Widmann; John Woodward
- 1:15-2:30 **Yale Child Study Center Grand Rounds**
- 2:30-3:30 **Yale Child Study Center Open House**
- 3:00 **Special Alumni/ae Presentation**
"Physicians and the Nuclear Arms Race", John O. Pastore, M.D. '67, *Associate Professor of Medicine, Tufts University; Secretary, International Physicians for the Prevention of Nuclear War.*
- 4:00 **Yale School of Medicine Special Address**
"The Challenge of Yale Medicine: Protecting Excellence in an Unpredictable Environment", Samuel O. Thier, M.D., *President, Institute of Medicine, National Academy of Sciences*
- 5:00 **Dean's Reception**
(Medical School, Public Health and Nursing Alumni, ae, Faculty, Students and Guests are invited)
- 7:30-9:00 **Medical Alumni/ae Reunion Dinner***
- 9:00-1:00 **Yale School of Medicine Reunion Dance****
Co-sponsored by the Yale School of Medicine 1986 Reunion Class. (All Yale-New Haven Medical Community and Guests are invited)

PUBLIC HEALTH

Association of Yale Alumni/ae in Public Health (AYAPH) and Yale University Hospital Administration Alumni Association (YUHAAA)

"The Urban Public Health Crisis"

- 8:30-9:30 **Registration and Coffee**
- 9:30-10:00 **Welcome and Opening Remarks**
- 10:15-12:00 **Concurrent Sessions******
AYAPH Workshop I — "Critical Urban Public Health, Environmental Health and Mental Health Issues".
YUHAAA Workshop I — "Impact of the Prospective Payment System on City Hospitals".
Speakers for both workshops to be announced
- 12:15 - 2:00 **Luncheon*****
Special Presentation to be announced
- 2:15-4:00 **Concurrent Sessions******
AYAPH Workshop II — "Minority Health Issues of the Eighties".
YUHAAA Workshop II — "Fighting the High Cost of Care with Alternative Payment Systems".
Speakers for both workshops to be announced
- 4:15-5:00 **Annual Meetings — AYAPH and YUHAAA**

SATURDAY, JUNE 7

- 8:30** **Medical Alumni/ae Registration**
- 9:15-9:45** **Remarks:** A.Bartlett Giamatti, *President, Yale University*
- 10:00-11:30** **Seminars**
I. "Seventy-five Years of Child Development at Yale". Moderator: Donald Cohen, M.D., *director, Child Study Center*. Participants: David Musto M.D.; Melvin Lewis, M.D.; James Leckman, M.D.

II. "Medical Education and Student Affairs". Participants: Robert Gifford, M.D., *associate dean, Medical Education and Student Affairs*; Thomas Lentz, M.D.; Pamela Nyiri

III. "New Directions in Geriatrics at Yale". Participants: Leo Cooney, Jr., M.D., *director, Continuing Care Unit, Y-NHH*; Ronald Miller, M.D.; Mary Tinetti, M.D.

IV. "Recent Advances in the Understanding and Treatment of Affective Illness". Participants: George R. Heninger, M.D. *director, Abraham Ribicoff Research Facilities*; Dennis S. Charney, M.D., *chief, Clinical Research Unit*; Lawrence Price, M.D.
- 9:45-12:00** **Guided Tours:** Yale Art Gallery; Yale Center for British Art; Historic Sections of New Haven
- 11:45-12:30** **Annual Meeting of the Association of Yale Alumni in Medicine**
- 12:30-1:00** **Sherry**
- 1:00-2:00** **Buffet Luncheon**
- 2:00-4:30** **Yale School of Medicine Class of 1961 Dialogues**
- 2:30** **School of Medicine Alumni Fund Class Agents Meeting**
- 2:45** **Guided Tour:** New Facilities of the Yale Eye Center for Clinical Research

Individual class parties and dinners for the five year reunion classes ('26, '31, '36, '41, '46, '51, '56, '61, '66, '71, '76, '81).
Information will be available at Alumni registration Desk.

*Prepaid advanced reservations required. **Reservations limited**

**Prepaid advanced reservations required. For additional information, contact Connie Q. Tolliver, Assistant to the Director, Office of Alumni Affairs, Yale School of Medicine, P.O. Box 3333, New Haven, CT 06510, (203) 785-4674

***Prepaid advanced reservations required (luncheon cost to be announced)

****Program fee \$30 per person. For additional information contact Elizabeth Lorenzi, M.P.H. '79, Alumni/ae Activities Coordinator, Epidemiology and Public Health, Yale School of Medicine, P.O.Box 3333, New Haven, CT 06510, (203) 785-4845

CAMPAIGN UPDATE

Nearly \$70 million received to date



Dr. and Mrs. A. John Anlyan



Mr. and Mrs. Adrian C. Israel with Dean Rosenberg

By mid-January, the School of Medicine had received gifts and pledges amounting to \$69,054,556 toward its \$125 million capital campaign.

"We have received gifts from foundations, corporations and individuals, including alumni of Yale College as well as of the medical school," said Sue B. Dorn, associate vice president and director of medical school development. "The dollars recognize the School's past and attest to the enthusiasm for the direction it is taking."

Highlights of the campaign so far include a gift of \$1 million for renovation of research space in the Section of Molecular Neurobiology from one of the School's distinguished alumni, Dr. A. John Anlyan, '42 S, '45 M.D., and his wife, Betty Jane Renneckar Anlyan, of San Francisco, California.

A prominent surgeon, recently retired, Dr. Anlyan has been a consistent supporter of the medical school over the years. In addition to serving on the Yale Development Board, he is a member of the National Volunteer Committee for the Campaign for the Yale School of Medicine. Dr. and Mrs. Anlyan's contribution will further important research being done at Yale to determine the structure and function of the brain at the molecular level.

Two major gifts have been received toward construction of the Magnetic Resonance Center. The Pew Memorial Trust of Philadelphia has given \$1.5 million, and Mr. and Mrs. Adrian C. Israel of Stamford, Connecticut, and their family have contributed \$1,250,000 toward the project.

Mr. Israel, who received a B.S. degree in 1936 from Yale's Sheffield Scientific School, directs his family business in White Plains, New York. Active in alumni and fund raising activities for many years, he has served on the Yale Development Board since 1946.

The Israel family gift completes the school's drive for construction of the Magnetic Resonance Center, according to Mrs. Dorn. The center, which represents an important advance in research and patient care, is scheduled for completion this year.

Pledges have been received of \$500,000 from the Charles E. Culpeper Foundation to establish the Charles E. Culpeper Fund in honor of Dr. William W.L. Glenn, and of \$125,000 from International Playtex Corporation toward research in clinical epidemiology. In addition, a gift of \$100,000 from the Surdna Foundation of New York will endow a research venture fund in human genetics.

The Charles E. Culpeper Fund in honor of Dr. William W.L. Glenn recognizes the Charles W. Ohse Professor Emeritus of Surgery, who is well known to alumni as an outstanding teacher and surgeon, and is recognized throughout the world for his pioneering work on radiofrequency pacemakers to regulate heart-beat and respiration.

By providing financial support, the endowed permanent research venture fund will permit the school's most promising young physicians to pursue personal research interests early in their career, allowing them to become eligible for support from traditional funding sources several years sooner than is normally the case.

In addition, Mr. H.P.J. Duberg of Hobe Sound, Florida has given \$100,000 to establish a research fund in neurosurgery. A graduate of the Yale College Class of 1930, Mr. Duberg has had a strong interest in the School of Medicine for a number of years, contributing to student financial aid as well as supporting young faculty research. In 1978, he established the Dorys McConnell Duberg Professorship in Neuroscience in honor of his late wife.



Dr. William W.L. Glenn

PROGRESS REPORT SUMMARY

As of January 10, 1986

	Received	Outstanding Pledges	Total
Building	\$ 3,723,773	\$ 16,198,927	\$ 29,922,700
Endowment	\$ 2,798,673	\$ 6,892,503	\$ 9,691,176
Equipment	\$ 616,963	\$ 459,552	\$ 1,076,515
Loan Funds	\$ 435,855	\$ 0	\$ 435,855
Research	\$ 14,594,172	\$ 11,919,205	\$ 26,513,377
Various	\$ 1,024,320	\$ 0	\$ 1,024,320
Operations	\$ 237,221	\$ 193,392	\$ 430,613
TOTAL	\$ 23,430,977	\$ 45,663,579	\$ 69,094,556

SOURCE

	Received	Outstanding Pledges	Total
Corporations	\$ 3,380,976	\$ 4,351,800	\$ 7,732,776
Foundations	\$ 9,037,016	\$ 8,666,463	\$ 17,703,479
Individuals	\$ 4,984,197	\$ 14,244,130	\$ 19,228,327
Other	\$ 6,028,788	\$ 18,401,186	\$ 9,429,974
TOTAL	\$ 23,430,977	\$ 45,663,579	\$ 69,094,556

Watch this page each issue during the Campaign for the Yale School of Medicine for a campaign update.

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Alumni Bulletin of the Yale School of Medicine

Spring 1986



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WILD STRAWBERRY



SOUTHERNWOOD



CHAMOMILE



ALOE

Herbs for Healing

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COVER: "A Sick Man in Bed"
from Brunschwig's *Liber De Arte*
Distillandi, 1500; woodcuts of herbs
for healing from *Hortus Sanitas*, 1485,
and *In Commundo Raralium* 1490 - 95.
Courtesy Yale Medical Historical Library.

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Medical School Alumni Fund

A TWO WAY STREET THAT IS WIDE OPEN

by James D. Kenney, M.D.

Just over twenty years ago, during the era of "The Great Society," Congress passed public law 89-239 (The Heart Disease, Cancer and Stroke Amendments of 1965), which enabled regional planning for the establishment and linkage of health services. Those who drew up the legislation might now be seen as having built better than they knew for, although they expected significant technical advances in health care, they could not have predicted the "imaging revolution" which was to occur in the next two decades, nor the extraordinary advances which were to occur in microsurgery, transplantation, manipulation of the immune response, antibiotic therapy and the technology of intensive care.

Certain early sophistication, such as arterial blood gas determinations and cardiac monitoring, had begun to be widely available, however, and the architects of regional medical planning (not yet called "health care delivery") sought to develop relationships which would enable easy dissemination of new knowledge and technology. Although they sought to involve the consumer public in this planning, they aimed, as specified in the law, "to accomplish these ends without interfering with the patterns or the methods of

financing of patient care or professional practice, or with the administration of hospitals, and in cooperation with practicing physicians, medical center officials, hospital administrators and representatives for appropriate voluntary health agencies." The focal points for this sought-for unity were to be the major medical centers. Professional leadership at the various institutions in the scheme was to enable its coherence.

The situation in Connecticut which preexisted this planning effort was already developed. Standards of care were generally good and all hospitals were JCAH approved. There were no proprietary hospitals. The geographic area was small, transportation was good and there were no specific geographic barriers. Many institutional linkages already existed, and the schools of medicine were already a recognized "presence." Regional teaching and consulting by Yale faculty had been provided for many years, sometimes through the Dean's Office and sometimes on an individual basis. To use the schools of medicine as focal points for planning was perceived as reasonable and proper. The Connecticut Regional Medical Program (CRMP) was established.

Dr. Kenney, clinical professor of medicine, is associate dean for graduate and continuing education.

STRUCTURE

The key feature of the new pattern was to be the installation of fulltime chiefs of service in regional hospitals. These physicians were to relate to schools of medicine in two ways: first by virtue of their having faculty appointments and second, by having the initial funding of their salaries come to their parent institutions through affiliated schools of medicine. Their loyalties and interests would be directed to the institutions in which they worked, to their colleagues in the profession and to the schools of medicine in which they had appointments.

Public influence on the scheme was to be exerted through the appropriation of funds for a number of "field demonstrations" which were to influence the conduct of events within the affiliation. The traditional counter-position of physicians and hospitals was to be modified by introduction of the consumer "third force" and key personnel.

ACCOUNTANCY

In the five years 1968 through 1973, under the terms of formal affiliation agreements, positions were created and most of them filled for 75 hospital-based physicians at various Connecticut hospitals. In Yale's case, the affiliation agreements have been continued in all instances but one and have been refined and renegotiated over succeeding years. The School of Medicine now has affiliation agreements with ten hospitals (Bridgeport, Danbury, Greenwich, Griffin Hospital in Derby, Hospital of St. Raphael in New Haven, Lawrence and Memorial Hospitals in New London, Norwalk Hospital, St. Mary's Hospital in Waterbury, St. Vincent's Hospital in Bridgeport and Waterbury Hospital).

A number of efforts are enabled in this way, including contracts for teaching by Yale faculty, rotation of house officers from Yale-New Haven Hospital to some six regional hospitals, and from eight regional hospitals to Yale-New Haven Medical Center. Physicians in fellowship training rotate to five regional institutions from the School of Medicine, and fellows from two — sometimes three — regional hospitals have come to Yale to expand their training.

Yale's influence on scholarly events at regional institutions has been magnified in several ways. One worth special mention is that of contracts for didactic services, first developed under Dr. Samuel Thier, until recently, chairman of the Department of Internal Medicine. Such contracts not only provide Yale faculty teaching, but also include advertising by the school of residency training at the affiliated institutions and enabling of rotations for fellows and housestaff, thus improving the fabric of internal medicine education. At present, some 40 contracts exist between several Yale departments and their regional hospital counterparts.

In the final analysis, however, it is the fulltime chiefs at regional hospitals who are the strong points in the linkage. They have become "prudent buyers" of academic substance from Yale while, at the same time, they serve as leaders in organizing graduate and continuing education at their own institutions. During the academic year, the regional chiefs of medicine meet monthly at one of the affiliated institutions for dinner and a review of common concerns and opportunities. The Yale chairman attends these meetings. Less frequent, but regular meetings of their surgical colleagues occur as well.

UNIQUENESS

As this scheme has matured, a very large number of successful enterprises have blossomed. The excellent Department of Pediatrics at Bridgeport Hospital, where Yale residents go for regular training, and which enables outpatient care for a nearby underprivileged area, is one example. The faculty at Danbury Hospital is not only notable for skills in nuclear medicine and cardiology, but is in a general way, strong enough to enable the hospital to present its first "Research Day" this year.

Lawrence and Memorial Hospitals have no house staff but provide for continuing education for the attending staff under the terms of several contracts. That hospital, located near nuclear power generators on the Thames River, the submarine base at Groton, and a number of industrial enterprises which carry with them some possibility of occupational hazard, has drawn upon the expertise of Yale's Section of Occupational medicine and has set up an occupational medicine clinic. In May, 1985, after Three Mile Island but before Chernobyl, the hospital sponsored a state-of-the-art program on "Medical Aspects of Radiation Emergencies." Dr. Paul Hoffer, Yale radiologist, was a principal in planning this program.

St. Raphael's Hospital, nearby in New Haven and an easy site for the extension of Yale programs is closely involved in several important ways. The school's Department of Pediatrics joins the hospital departments at both Yale-New Haven Hospital and St. Raphael's Hospital in common purpose. No less than four fellowship programs in internal medicine include a rotation to St. Raphael's Hospital, thus enriching internal medicine training at that institution, while working with an experienced group of senior physicians. Because of the existence of the Yale Comprehensive Cancer Center, an outpatient cancer chemotherapy facility was enabled at St. Raphael's Hospital through an NIH grant. The grant linked programs at St. Raphael's to Yale, which provided protocols, biostatistical aid and an academic base. All of these developments have been enabled by perceptive leadership on the part of St. Raphael-based physicians.

Excellent overall programs at Waterbury and St. Mary's Hospitals, to both of which Yale-New Haven medical

residents have rotated, deserve mention. Both have been popular with the housestaff; the present chief resident in medicine at Waterbury Hospital moved there from the Yale-New Haven training program. As the School of Medicine's program in human genetics has matured, its outreach to regional hospitals has been extended. Substantial programs in human genetics are now in place at Bridgeport, Danbury and Norwalk Hospitals. At this last hospital, the Yale presence has been so substantial that its now retired director, Norman Brady, referred to it some years ago as "Yale's campus in Norwalk." Programs at Greenwich, Griffin and St. Vincent's hospitals also have special qualities.

A LARGER CAMPUS?

The observation about "Yale's campus" at a regional hospital was in some measure prescient. At the Office of Graduate and Continuing Education, records are kept of the weekly education programs at all regional hospitals. The School's presence at these institutions is unmistakable. Yale faculty participate in lectures, seminars, ward rounds and even clinic work. Their impact upon the general standard of medical practice at these institutions is inevitable.

At the same time, however, the capacity of regional hospitals to do for themselves has grown as well. A good example is the recent establishment of a Liaison Committee for Surgical Education, which has a strong Yale base but has equally strong leadership from chairmen of the four regional hospitals with free-standing residencies. Their programs are reinforced by the provision of solid teaching from Yale faculty in basic sciences, essential for any surgical residency program. At the same time, the four chiefs have themselves arranged to be active participants in a quality control mechanism at each other's institutions, not depending upon Yale for the provision of all academic leadership but working with the Yale department. The bridge between Yale-New Haven Hospital and St. Raphael's Hospital in pediatrics is a sound one; it not only provides an excellent base for the training of house officers, but it enhances the practicing community of pediatricians in New Haven.

Recently, at a meeting of the Medical School Council to which representatives from all affiliated hospitals were invited, Dr. Robert Gifford, associate dean for medical education and student affairs, set forth an invitation and a challenge to them to participate even more fully in the work of the medical school. The now common perception that inpatient care needs to be associated with an ever stronger component of outpatient practice and a broader institutional base, is as true at Yale as it is anywhere else.

Opportunity has thus emerged for even closer ties between the School of Medicine and affiliated hospitals in time to come. First class clerkships and intensive teaching at regional institutions can find a place in the curriculum. A director of medical education at one regional hospital

recently speculated that in the future we might not only have "one campus", but even a disappearance of the notion of "town and gown." As he put it, "everybody would be gown."

THE FUTURE

It is conceivable that the affiliations instituted in the late 1960s, which have clearly become a functioning and successful part of the larger pattern of health care in the state of Connecticut will continue to evolve successfully. When one reviews early documents pertaining to our present establishment, a comment by Dr. Arthur Ebbert, Jr., deputy dean of the medical school, at the first Conference on Yale University School of Medicine - Community Hospital Relations in September 1969, stands out. At that time, Dr. Ebbert said, "Let me emphasize that to be effective and to be lasting, the medical school-community hospital relationship must be a two-way street. Each party must see definite benefits. A one-way relationship will eventually lead to a dead end and ultimate failure."

It is pleasant to report that the two-way street remains wide open. The relationships are healthy ones, with the collegiality of physicians perhaps the most important among them. Just as the profession in Connecticut was strong at the time of the establishment of regional medical planning, it has remained strong and, in significant ways, truly a profession. In these days, when medical practice and the provision of health care are increasingly viewed as businesses and as physicians become anxious about a dominant role for payors in health care, the facts of intellectual progress and collegiality which have been significantly aided by the regional hospital affiliations are pleasant to contemplate.

We hope to see them grow stronger.

an innovative education development program rates an



by Marjic Noyes

The Martin Luther King, Jr. Elementary School in New Haven has become a model for scholastic and social achievement for inner city schools throughout the country. Located in a deteriorating neighborhood, with 99 percent of its pupils minority children of mostly welfare dependent parents, and a teaching staff that is 50 percent black and 50 percent white, this school was the first to participate in a school development plan designed to raise the expectations and achievements of inner city children.

The program, begun in 1968 as a joint project of the Yale Child Study Center and the New Haven school system, is focused on the school's psychological makeup and the triangular relationship between students, teachers and parents. So successful have been the results in the King School, that it is being introduced throughout the New Haven school system as well as in schools in Stamford, Connecticut, Benton Harbor, Michigan and Prince George's County, Maryland.

The mastermind of this innovative approach to education is Dr. James P. Comer, Maurice Falk Professor in the Child Study Center and Psychiatry at Yale and author of *School Power* (1980), who has received wide recognition for his work in promoting a better understanding of the problems as well as the potentials in educating minority children of low income families. In developing the program, Dr. Comer harked back to the days before large scale technology and science had eroded some of the basic tenets of the social structure of the nation.

Before the proliferation of cars and TV, children learned how to deal with life through examples set by their parents and teachers and other important authority figures and behavioral models, according to Dr. Comer. Schools were an important part of the social fabric of the community, whether they were inner city or rural, and there was a feeling of mutual respect and trust between school and home.

"When I went to the grocery store with my mother and father in the 1940s, it was a rare day that we did not encounter someone from my elementary school — the custodian, the principal, the secretary or a teacher. There would always be an exchange of pleasantries and sometimes,

an exchange about my school behavior or achievement. The knowledge that my parents knew and appeared to like and respect the people at my school had a profound impact on my behavior," recalled Dr. Comer. "The authority my parents held by virtue of the care and guidance they gave me was transferred directly to the people who ran the school. My parents were physically present at school only on visiting days and other special occasions, but their involvement with the school, though indirect, was meaningful and constant."

The aim of the school development program at King Elementary School, and subsequently the other schools that have participated in the project, was to restore a reasonable degree of trust, mutual respect and consensus about objectives and methods of education among the school staff, pupils and their parents, while at the same time being responsive to contemporary needs and social concerns.

"Given the complexity of the modern world, today's students need more adult help than children did in the past. Programs that involve parents effectively in the schools can provide a desirable context for teaching and learning."

— Dr. Comer

"A disproportionate number of children of low income families are academically and socially underdeveloped," explained Dr. Comer. "They require assistance in developing skills needed for school success, but because most staff members are not trained to provide such assistance, they tend almost automatically to label the behavior of these pupils as 'bad', and they view them as less able than other students. The teachers punish the children or hold low expectations of them, which in turn, results in inadequate



Dr. Comer

teaching efforts,” he continued. “This adds to distrust, alienation and conflict between home and school, further eroding the relationships among all involved in the education experience. Adequate learning is then not possible.”

Based largely on principles of mental health, the School Development Program applies techniques of intervention and primary prevention to basic problems of inner city schools. The strategy is to coordinate school management, curriculum and staff development with the teaching and learning process.

The assumption is that the vast majority of children can acquire the psychological, social and academic competencies required to function sufficiently in and after school when the school environment is adequate, according to Dr. Comer. The hypothesis is that, as the organization and management system of a school successfully provides all participants in the education process — students, school staff and parents — with sufficient educational *and* interactional skills and support, the academic achievement and social performance of students will improve and provide residual academic, social and psychological benefits to students.

The rationale for this hypothesis is drawn from an ecological perspective, which suggests that underlying and major causes of dysfunction in human systems or institutions is more on an interactional than a largely interpersonal or individual basis, and is due to organizational and management limitations as much, or more than, individual shortcomings. Dr. Comer describes the case of a young transfer student to the King School as a case in point.

The eight-year old boy was dropped off at the King School, which is in a neighborhood that couldn't be in further contrast to the small rural town in North Carolina that he had come from. He was taken almost at once to his classroom. The teacher, who had received three transfer students only the week before, had the exasperated look of “all I need is another one.”

The little boy had just come from a warm family, school, church and community setting in which he had felt secure. A well-meaning relative had brought him north to get “a better education.” Here he was, alone in a strange city, living with a

relative he barely knew, and in a school totally different from the one he had been attending.

“He took one look around the classroom full of strangers, kicked the teacher in the leg and ran out. It was a classic fight and flight reaction to separation anxiety and fear,” observed Dr. Comer.

In many schools, the child would have been punished. Instead, the psychosocial dynamics of his behavior were discussed. The teachers planned ways to welcome him and help him adjust to his new environment. The incident also pointed up some deficiencies in the school system's transfer process, which have since been modified.

“Intervention is a process, not a package of materials, instructional methods, behavior modification techniques or personnel,” explained Dr. Comer. There are four key elements to the program: a representative governance and management group; a parent participation group; a mental health program and team, and a curriculum and staff development program.

Teachers, parents and aides select their representatives to the 12-member representative governance and management group, which is headed by the school principal. This important body identifies problems and opportunities within the school, matches resources with school needs, develops and implements programs to address the problems and opportunities, and evaluates programs and modifies them appropriately. All of the adults in the school feel represented in the decision-making process as a result of the activities of this group.

In addition to selecting a representative to serve on the governance and management body, the parent's group participates in the parent-aide program, in which a parent serves as an aide in each classroom for approximately 15 hours a week, receiving a minimum wage. Parent aides are the core of the parent group, which also sponsors a variety of programs in support of enhancing the school climate and achievement goals. Their presence and participation with the staff ensures a culturally consistent social and academic program, so that children do not feel the social distance between home, primary social network and school. In turn,

“Frequently, efforts at instituting major change fail because too little attention is paid to personal relationships and to bureaucracy issues that are common to all organizations, but are potentially more problematic in schools because children are developing and thus vulnerable, their parents though able, are underdeveloped, and most school personnel lack preparation to address these conditions.” — Dr. Comer

involvement of parents promotes a good feeling about the school to other parents and to the community in general.

The mental health team — psychiatrist, social worker, psychologist-program evaluator and helping teacher — is organized in a way that enables staff and parents to apply principles of the social and behavioral sciences to every aspect of the school practice. For instance, the team has helped teachers understand and apply child-development theory and practice in ways that assist a child in trouble to leave the classroom gracefully; that promote adjustment of a transfer student; that teach children in conflict to learn to negotiate rather than to fight it out; that help teachers grasp why many parents are reluctant to participate in school programs; that help the president of the parent group to develop programs that keep members interested and involved, and that help the school principal appreciate the value of parent and teacher participation in what had long been considered the school administration's territory.

Have Dr. Comer's strategies worked? If progress in the Martin Luther King, Jr. Elementary School and two other New Haven elementary schools that have been participating in the School Development Program since the 1970s, is any indication, the answer is a resounding **yes**. These interventions have reduced distrust, alienation and conflict and have led to increased staff energies and expectations of each other and of their students. As the social climate improved, the level of learning gradually increased.

In 1969, when the program began, fourth grade students in King Elementary School trailed the national average in reading and mathematics by 19 and 18 months respectively. Pupil and staff attendance was poor, classroom behavior often resembled bedlam, and staff-parent relationships were poor at best.

After some tribulations in the beginning, testing the resolve of the most determined educators, the school began to make measurable progress. By 1984, the fourth graders were one year above grade level in reading and math. They were tied for third out of 26 New Haven schools. King third graders ranked fifth in mastery of skills, and the school has ranked first or second in attendance four of the last five years. A 1982 study showed that seventh grade students who had attended King scored higher in all academic areas than children with similar socio-economic backgrounds who had attended other New Haven public elementary schools. And,

not a single teacher has voluntarily left the school since 1975.

The School Development Program is one of the longest running public school-university cooperative school improvement efforts in the country. Although the intervention methods have been modified slightly for cost effectiveness during the eighteen years since it began, their intent remains essentially the same. A program designed to train educators to serve as intervenors and to use the intervention process model was initiated in 1980 and continues. Evaluation of the program has been ongoing and is currently a major focus. The original approach of carrying out general evaluations has moved toward more detailed research to study the long-term effects of the intervention and to pursue other research questions.

“Our program, and others like it in other cities, clearly show that inner city children can learn at significantly higher levels than is common,” said Dr. Comer. “It is the obligation of each school and school system to make this possible.”

“The poor education low income minority children receive in inner city schools contributes heavily to our social problems: unemployment and underemployment, welfare dependency, troubled race relations, delinquency, crime. Inner city children can achieve at a much higher level.” — Dr. Comer

researchers and clinicians in the Section of Hematology join in a concerted effort to discover causes of

DISORDERS OF BLOOD

by Marje Noyes

From the earliest times, philosophers and scientists have theorized about the origin and meaning of blood. The unprecedented advances in medical technology during the past quarter century have done much to unravel the mysteries of this "vital ingredient", but many questions remain unanswered, and more importantly, cure and prevention of disorders of blood remain elusive.

Researchers in the Section of Hematology at Yale including Drs. Bernard Forget, Sally Marchesi, Edward Benz and Paul Lebowitz, are working to answer some very basic questions for a better understanding of the causes of inherited disorders and cancers of blood. Using techniques of molecular and cellular biology and molecular genetics to study normal and abnormal blood cells, their work is mainly directed at genes for hemoglobin, the principal protein of red blood cells, and at oncogenes of blood cells.

"Red blood cells have served as a key to experimental medicine throughout the history of modern biology," said Dr. Benz. "They form the most accessible tissue in the human body, and are much simpler than most cells. You can easily get an idea about which substances are the key ingredients — which are the most important molecules, and then develop antibody or DNA or RNA probes to look at other tissues for similar proteins in order to understand how they function."

"The things we have learned about normal hemoglobin gene structure, as well as about defects of these genes, have, in fact, been found to be true in other gene systems as well," observed Dr. Forget, professor of medicine and human genetics, and head of the Section of Hematology.

Dr. Forget's research is concerned with the molecular genetics of globin gene expression and genes for the red cell membrane protein called spectrin. Dr. Marchesi is studying the spectrin, the major protein of the red cell cytoskeleton. Dr. Benz is conducting research to increase knowledge about the genetic regulation of blood cell differentiation and the molecular genetics of inherited blood disorders. Dr. Lebowitz has focused his work on the mechanisms of malignancy in hematological tumors. Much of their work is done in collaboration with investigators in cell biology, human genetics, physiology and pathology.

An outstanding example of this collaboration is research to determine the cause of beta thalassemia by Dr. Forget and Dr. Sherman Weissman, professor of human genetics, medicine and molecular biophysics and biochemistry. The work began 20 years ago when the two were at the National Institutes of Health in Bethesda, studying the biochemical defect involved in thalassemia. Later at Yale, using the then newly developed recombinant DNA techniques for cloning globin genes, they discovered the precise genetic cause of this devastating anemia in a child of Greek ancestry. Thirty-seven different mutations of the hemoglobin gene that can cause beta thalassemia have since been identified by various investigators and the research continues.

Drs. Forget, Weissman and Benz subsequently were able to demonstrate how the initial gene mutation causes deficiency in hemoglobin synthesis by altering the precursor messenger RNA molecules. The studies have thus far provided a means for precise diagnosis *in utero* for thalassemia and for sickle cell disease. Studies on thalassemia here, and at several other medical centers, provided the first opportunity to study a human disease at the level of DNA and RNA sequences of specific genes.

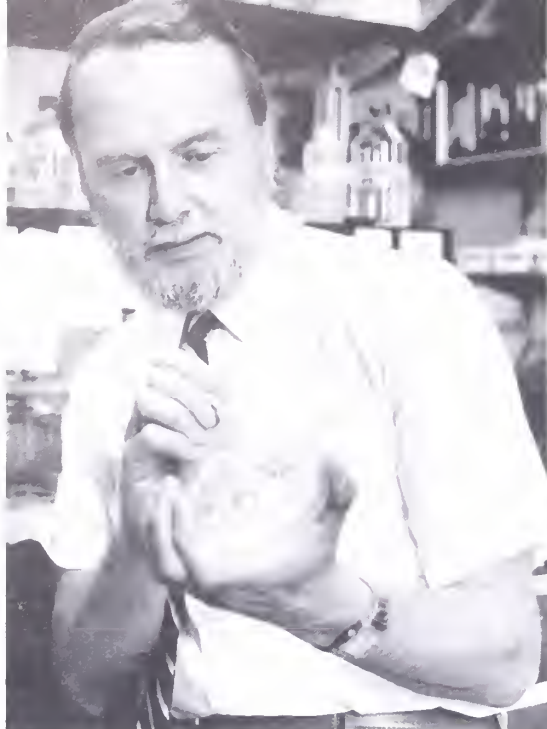
"The lessons we have learned from studying hemoglobin genes in thalassemia can be applied to a whole gamut of inherited diseases," said Dr. Forget.

In normal persons, hemoglobin present during fetal life is different in structure from that of hemoglobin shortly after birth. Both of these hemoglobins have two pairs of subunits or chains — the alpha chains and the beta-like chains.

"The difference between fetal and adult hemoglobin lies in the beta-like chain," explained Dr. Forget. Fetal hemoglobin contains a pair of gamma chains; adult hemoglobin, a pair of beta chains. The switch from fetal to adult hemoglobin — the turning off of the gamma chain gene and turning on of the beta chain gene — takes place during the first six months of life.

Beta thalassemia and sickle cell disease are the result of a defect in the beta chain. In sickle cell disease, the defect is characterized by an abnormal amino acid in the structure of the beta chain. In beta thalassemia, it results in little or no production of beta chains.

"If it were possible to suppress the switch from fetal to adult hemoglobin in individuals diagnosed as having one of these disorders, we could prevent the deleterious consequences of these diseases," said Dr. Forget.



Dr. Forêt

In research to discover the genetic mechanism that regulates the switch from the gamma chain to the beta chain, he and his colleagues are studying individuals with hereditary persistence of fetal hemoglobin (HPFH), found predominantly in persons of African and Mediterranean ancestry, where the gamma chain is not switched off and the beta chain is suppressed. Persons with HPFH present no clinical symptoms and are able to lead perfectly normal lives, according to Dr. Forêt.

"With the use of recombinant DNA technology, we have been able to isolate the gamma genes of HPFH individuals and to determine where the abnormality is located," said Dr. Forêt. "Now our work is to identify the negative and positive factors that may be involved in the failure to switch; to purify them and to find the genes responsible for them."

And how would these discoveries be applied therapeutically? One way might be to modify the genes for these factors by genetic engineering so that factors which normally recognize the beta gene would instead, recognize the gamma gene and turn it on. Another approach might be to introduce a normal beta globin gene into bone marrow cells which have only abnormal beta genes. "But we are many years away from that type of gene therapy," said Dr. Forêt.

In another study, he is investigating the genes for the red blood cell membrane protein called spectrin. In broad terms, this study is directed at understanding tissue specificity of gene expression.

"By studying the red cell spectrin gene and comparing its regulatory regions to those of the brain spectrin gene, we ought to find out what signals are present that specify a certain program of gene expression in certain types of cells," commented Dr. Forêt.

Hemoglobin genes are present in all cells, but only function in red cells. Why are certain genes turned on only in certain cells and not in others? "The determining feature must reside in the DNA structure of the genes. By comparing the structure of globin and red cell spectrin genes it should be possible to identify common features that might be the signals for tissue specificity," he explained.

While Dr. Forêt is investigating gene specificity in red cell spectrin, Dr. Sally Marchesi, associate professor of medicine, is studying the structure of spectrin itself. Analyzing blood samples from the same patients, the two laboratories are working in concert — Dr. Forêt and his colleagues are hoping to determine specific abnormalities of a gene which will confirm what Dr. Marchesi and investigators in her laboratory find out about spectrin protein.

A graduate of the School of Medicine, Dr. Marchesi's interest in hematology began when she was an NIH fellow in the laboratory of Dr. Christian Anfinsen, a well known protein chemist. After further training, specifically in hematology, she returned to Yale as an assistant professor of medicine and pathology, doing research, teaching and caring for patients.

At the time when knowledge of the structure of cell proteins had advanced to the point where it could be applied to studies of blood disorders, her clinical activity and ability to recognize patients with specific hematologic abnormalities were important assets in the laboratory. Earlier, working with platelet membranes, Dr. Marchesi was able to identify specific platelet surface glycoproteins and make antibodies to these membrane components which were subsequently used to study megakaryocyte growth in bone marrow tissue.

In 1978, she turned her attention to studies of spectrin protein, in collaboration with Dr. Vincent Marchesi, chairman of the Department of Pathology, who is recognized worldwide for his research on cell membranes. Membrane proteins are important to the shape of the red blood cell, which is normally discoid, but which has remarkable properties of deformability which allow it to pass through tiny capillaries during its 120-day life span.

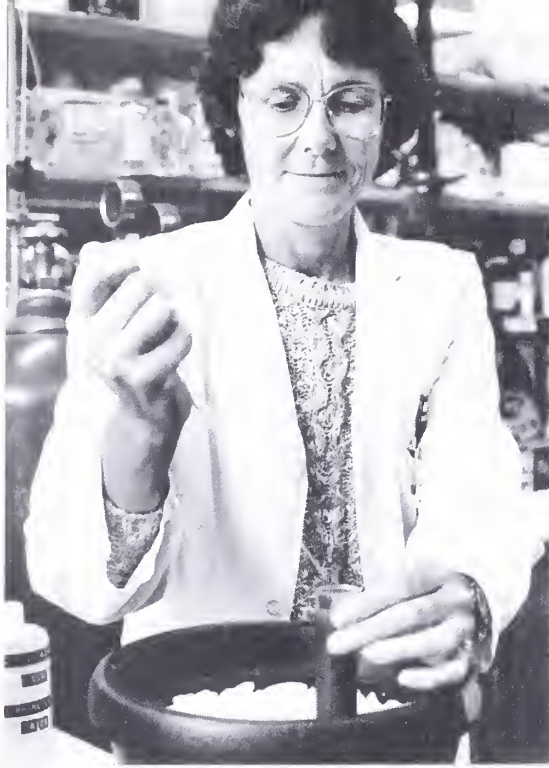
There is a group of anemias, characterized by abnormal red cell shapes, the most common of which are elliptocytosis and spherocytosis. These cells are poorly deformable and are damaged as they pass through tiny capillaries and sinusoids in the spleen. However, the hemoglobin and enzymes within the cells appear to be normal.

"By process of elimination, it was thought that these abnormalities in cell shape were due to inherited abnormalities in the red cell membrane itself," commented Dr. Marchesi.

There are spectrin-like proteins in most tissues in humans and other species which are quite similar even across species barriers. Red cell spectrin is a specialized version of this class of structural protein, engineered in concert with other membrane proteins to allow the deformability characteristics of red cell membrane necessary for normal life span. "For that reason, we believe a mutation of spectrin (or of other membrane proteins) might be the culprit determining the unusual shapes of cells found in spherocytosis and elliptocytosis."

Dr. Marchesi is studying blood from patients and their families with these anemias, both of which are inherited as autosomal dominant disorders. She has found that a high percentage of black families with elliptocytosis have a mutation in spectrin near the amino terminal end of the alpha chain, which causes that section of the molecule to be more easily broken down by certain enzymes.

"We have analyzed fragments of spectrin to get the actual amino acid sequence near unstable regions of the molecule and have found that, in two types of elliptocytosis, a single amino acid substitution causes the change of shape and



Dr. Marchesi

shortens the life span of the cell," she said. "This is similar to sickle cell hemoglobin, in which a single amino acid substitution produces devastating changes in the physical properties of the beta globin chain.

Studies of recessive spherocytosis, a rare form of anemia in which both parents show no evidence of the disorder, but one or more children have severe, life threatening anemias, have indicated an abnormality in the alpha chain of spectrin, distinct from the mutation found in elliptocytosis.

"We assume that the gene present in the bone marrow stem cells, which is eventually expressed in the mature red cells, is the specific gene for that hematopoietic cell line," explained Dr. Marchesi.

Research on protein membranes is complicated, and as in much of hematology research, considerable time elapses between findings. Persistence and dedication are key words.

"We are studying the chemistry of spectrin and other membrane proteins which have been characterized well enough to allow us to screen large numbers of people with anemia and abnormally shaped red cells to try to determine if abnormal proteins are the cause," said Dr. Marchesi. "Once an abnormality is found by these 'screening tests', we continue our studies of the apparently abnormal protein, in so far as we can, to identify the mutation.

Dr. Edward Benz and Dr. Forget began their research association at Harvard Medical School several years before either came to Yale. Dr. Benz was a medical student working in the laboratory with Dr. Forget, who was a fellow in hematology there. Following postgraduate training at NIH, Dr. Benz came to Yale in 1978 as a fellow in hematology. Current activities in

his lab are about equally divided between continuing studies on hemoglobin RNA and research on cell differentiation in leukemia.

Based on previous studies of the role of globin gene mutations in messenger RNA (mRNA) in thalassemia, and subsequent characterization of these mutations, Dr. Benz, associate professor of medicine, has been doing research to discover how they disrupt RNA metabolism.

"We have found some surprising effects of those mutations on mRNA that are revealing some previously unknown facts about the way RNA molecules are metabolized in normal cells," said Dr. Benz.

For example, there are some changes in a gene that cause the messenger RNA to be untranslatable. The mRNA is synthesized, but a mutation in one base will prevent it from being translated to a protein.

"It's obvious that you can't make hemoglobin if you can't make one of its protein components," he explained. "What's not obvious is that mRNA doesn't accumulate in normal amounts, indicating that not only is it not functioning, it's not being produced in adequate amounts as well."

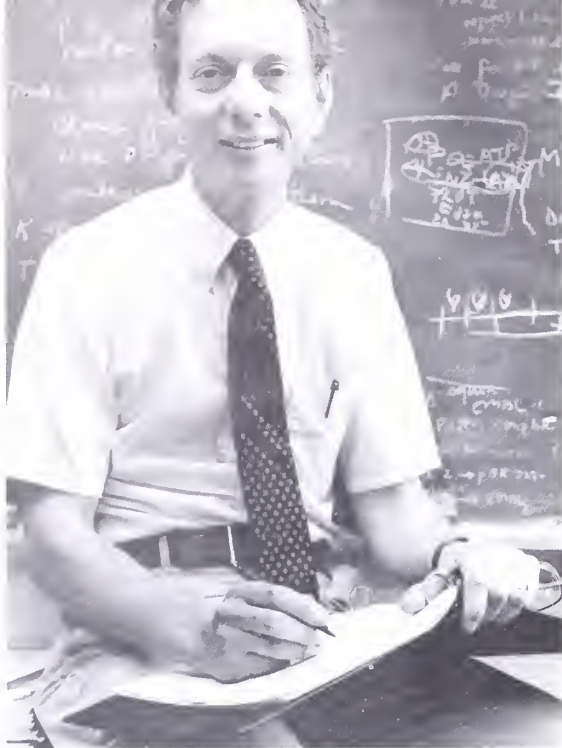
These findings indicate that many steps are necessary for the RNA molecule to be synthesized, to be processed from the precursor to the mature form in the nucleus, to get out into the cytoplasm and to function — in other words, to be translated into globin protein.

"You have to be able to study the physiology of the message as well as to know its anatomy," said Dr. Benz. "This information may give us a way to look at some basic mechanisms that might be involved in RNA production in all cells.

In another direction, Dr. Benz and his colleagues have cloned the gene for the protein, lactoferrin, and are using it as a marker for studies on leukemia. Leukemia is the result of failure of white cells to mature. Lactoferrin is present only in the most mature of white cells.



Dr. Benz



Dr. Lebowitz

"Analyzing these genes allows us to search for the components necessary for white cells to mature," explained Dr. Benz. "By comparing what we learn about normal processes of cell differentiation with processes in leukemic cells, we hope to discover the molecular basis for failure of leukemic cells to mature. With the DNA probe for lactoferrin, we can study the expression of it, and ask why it doesn't appear in leukemia.

"Lactoferrin is one of the targets for what goes wrong in a leukemia cell. If we can get our hands onto whatever is happening to lactoferrin in leukemia, it could give us a preview of what is happening to the entire cell in the leukemic process," explained Dr. Benz.

Early in the 1980s, oncogenes became one of the hottest subjects in cancer research. These genes are derived from normal precursors called proto-oncogenes which all animals, including man, carry. There is evidence that proto-oncogenes become activated to form oncogenes by several mechanisms including chemical changes — mutations, combination with other genes or an increase in their number — amplification. Scientists have become increasingly interested in the possibility that oncogenes play an important role in the development of many human malignancies.

One such scientist is Dr. Paul Lebowitz, who also came to Yale from Harvard Medical School via fellowship training at the NIH. Until 1980, his major research efforts had been directed at simian virus 40 — a virus which has served as a model for malignant cellular transformation. Then, in 1981, while on sabbatical leave in the laboratory of Dr. Edward Scolnick at NIH, he became interested in human oncogenic genes. "I was in the right place at the right time."

The primary focus in Dr. Lebowitz's current research is elucidating mechanisms by which human leukemias develop and progress. To do this, he is studying chronic myelogenous leukemia, an extremely favorable type of leukemia for study, since the disease can be divided into two

distinct phases and current evidence suggests that there are three distinct steps involved in its development and progression.

The disease starts with a very indolent, chronic phase that can be fairly well controlled with chemotherapy. This stage typically lasts for three or four years, when it transforms into an acute leukemic phase called blast-crisis, either myeloid or lymphoid. This phase can only be put into remission with successful bone marrow transplantation.

"There appear to be three oncogenic events involved in the development and progression of this disease," commented Dr. Lebowitz. "It's important to work on each of them because, when we identify an oncogenic event, it provides a potential target for chemotherapy or other therapeutic approaches in the future."

There is reason to believe there is an initial step which affects one hematological stem cell and causes all its daughter cells to grow very rapidly. According to Dr. Lebowitz, this step has received little attention from scientists.

The second step, well known to most investigators, is marked by a chromosomal abnormality caused by translocation of chromosome 9 and chromosome 22. The resulting abnormal chromosome 22 is known as the "Philadelphia" chromosome. It is found in most patients with CML and is the best means for diagnosing the disease. As a result of this translocation, a proto-oncogenic gene in chromosome 9, called the ABL gene, comes under the control of a new gene on chromosome 22, called the BCR gene. This results in the production of a hybrid BCR-ABL messenger RNA and a hybrid protein, which appears to be oncogenic. Thus, this step fixes the malignant state in CML cells.

"The third event is the one which converts the chronic phase to the aggressive phase," said Dr. Lebowitz. It could be two separate steps: one which leads to a lymphoid blast crisis in some patients or an alternative one which leads to a myeloid blast crisis.

Little is known about the first or third events, according to Dr. Lebowitz, who is interested in the mechanisms of the disease as well as in approaches to changing their course.

"We are trying to develop methods by which we can take leukemic cells from CML patients and convert them back to normal cells," he explained. "For example, since acute leukemia is the result of failure of cells to differentiate, we would like to get these cells to start differentiating again, thereby reversing the leukemic state."

To accomplish this, he and his colleagues are studying the possibility of introducing certain genes which play an important role in normal cell differentiation, into leukemic cells. They are doing this by means of transfection now, but eventually hope to introduce genes into the malignant cells by means of a virus.

In this research, they are now focusing on a specific gene — the FOS gene. "We introduce the gene into the cell under control of an inducible promoter, which is like an on-off switch. When we turn the switch on, does the cell begin to differentiate? When we turn it off, will the cell reverse back to a non-differentiating cell?"

In related studies, the laboratory is attempting to force leukemic cells to make antisense messenger RNA by introducing antisense genes. There is evidence, according to Dr. Lebowitz, that antisense RNA will neutralize the sense RNA for a specific gene.

"With CML, we are anxious to get the leukemic cells to make antisense RNA specifically directed against the villain

BCR gene," he explained.

All of this work has implications for other leukemias as well as for CML. "We are working on a model system," said Dr. Lebowitz. "If a FOS gene differentiates CML cells, can it cause differentiation in other leukemic cell types? If the FOS gene doesn't work, might not some other differentiation-inducing gene? But that is a long way in the future," he added.

In addition to doing basic research on disorders of blood, Drs. Lebowitz, Benz, Marchesi and Forget care for patients in the hematology clinic. "Hematology is an ideal field for combining basic science with clinical activities. The tissue of interest is readily available and so basic studies of blood cells, both structural and functional, can be done on human cells," explained Dr. Marchesi. "Hypotheses concerning disease states derived from these studies may also be readily tested on patients with the disorder. A call from another hematologist concerning a patient he or she has seen, has frequently led to additional blood samples for our study, expanding our data base on a particular problem and in some instances, producing entirely new information."

This is very important to progress in discovering ways to prevent and treat hematologic disorders, according to Dr. Thomas Duffy, professor of medicine in the Section of Hematology. "This interaction between basic scientists and clinicians makes the significant difference between places like Yale and institutions where they do only basic research."

Regarded as an outstanding hematologist and teacher, Dr. Duffy came to Yale as an associate professor from the Johns Hopkins School of Medicine in 1976. In addition to caring for patients with hematologic diseases, he is involved in clinical research in several areas.

Recently, he and his colleagues participated in a nationwide clinical trial to test the efficacy of the drug, interferon, in treating hairy cell leukemia, a rare form of cancer of the blood. "The trial resulted in a remarkable success in the palliation, if not the cure, of this life-threatening disease," commented Dr. Duffy. As a result, the federal government has approved the commercial use of alpha-interferon against hairy cell leukemia, the first time the genetically produced antiviral drug has been made available by prescription.

With the demonstrated effectiveness of interferon on one type of leukemia, Dr. Duffy has just begun a clinical trial to test its use in treatment of agnogenic myeloid metaplasia. This is a proliferative chronic form of cancer of the blood for which there is no current therapy, other than symptomatic support.

Clinical studies in hematology are not only directed at leukemias. For instance, in collaboration with researchers in the Department of Obstetrics and Gynecology, Dr. Duffy is studying the causes of toxemia in pregnancy, which typically occurs only in the third trimester, and in many cases is manifested in thrombocytopenia. In observations of a large number of pregnant women, they have found that hematologic lesions occurring in the first or second trimesters were predictors of toxemia in the third trimester.

"This suggests that, although it presents only in the third trimester, toxemia represents the final stage of a pathological process that begins earlier in pregnancy," explained Dr. Duffy. "With this information, we can focus on the symptoms throughout pregnancy, before they result in the acute phase.

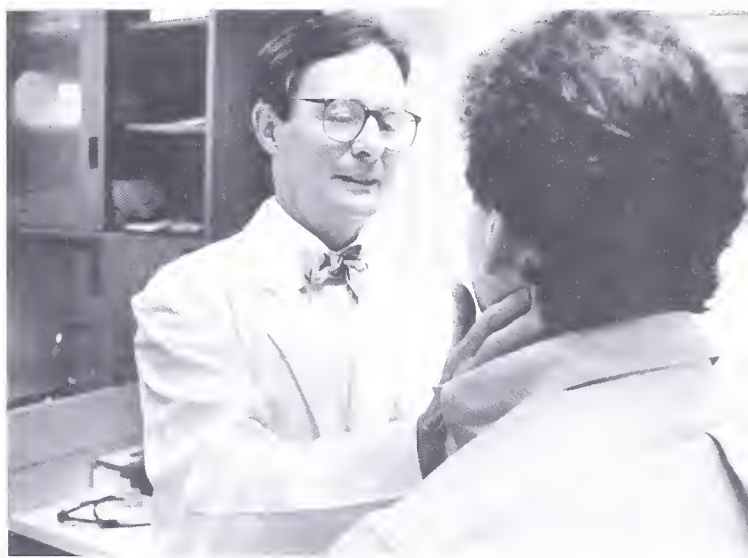
One of the dilemmas for physicians and medical school teachers is the wide gap between new knowledge acquired in the laboratory and current treatment available at the bedside. The problem has been aggravated by the news media which has greatly increased coverage of medicine in recent years.

"The patient population and the public in general, are being led to believe that the scientific breakthroughs they read about in newspapers and magazines and see on TV are immediately applicable," said Dr. Duffy. "Take for example, the widely reported work of Dr. Steven Rosenberg with leukocyte activated killer cells and interleukin 2. I didn't see one patient over the following several weeks after it was reported in the popular press, who didn't want immediate access to that therapeutic breakthrough, which, of course, isn't available.

"So many of the problems of hematology have not lent themselves to easy solution," he commented. "For instance, management of patients with sickle cell disease is much the same as it was thirty years ago. The work by Dr. Forget and his group has been responsible for revolutionizing our knowledge about gene control of hemoglobin synthesis. Once the code has been broken, the implications for clinical management will be staggering.

"The media is creating extraordinary expectations on the part of the patient that cannot yet be met," Dr. Duffy continued. "We as physicians have to be honest and say 'yes, we seem very close to some extraordinary breakthroughs in treatment of leukemias and anemias, but not today, maybe tomorrow'."

There is much to be learned, researchers in the Section of Hematology agree. But a great deal has been accomplished in a very short while, and they are optimistic that the research being done here and elsewhere will eventually lead to prevention or cure of blood disorders which have plagued mankind for centuries.



Dr. Duffy

by Ian A. Cook

Numerous authors, both from within the medical community and from without, have commented extensively on the demanding tasks a medical student faces in the process of becoming a physician. Beyond the obvious academic challenges of medical school, students at Yale and other schools encounter stressful situations which arise from the multitude of intellectual, social, economic and personal demands placed upon them. This spring marked the second anniversary of a bold experiment in medical education at Yale, which addresses these concerns through a Committee on the Well Being of Students (CWBS).

Each year, the Medical School Council (MSC) has devoted a meeting entirely to a discussion of "Student Initiated Issues." Two years ago, a group of students reviewed the minutes of the previous decade's Student Initiated Issue meetings; this revealed that a handful of issues appeared again and again as those viewed by the students as important. It was noted as well, that the issues they had identified were precisely the ones for which no on-going administrative structure existed.

This being the case, the president of the Student Council and the student MSC representative appealed to the Medical School Council to establish a standing committee and thus provide the tool needed by students, faculty and administration alike to work together to solve these problems. Unanimous approval of the students' proposal led to the formation of a Committee on the Well Being of Students, charged with the broad task of coordinating and promoting "activities and resources related to student life and well being." To work toward this goal, the membership of the committee was established as five students and five faculty representatives, including the associate dean of Medical Education and Student Affairs and the chaplain as members *ex officio*.

Through student survey and discussion at that time, the committee identified six areas of concern. They were: facilities, advising, administration, activities, parking and academics.

In its two years of operation, the CWBS has been involved in a number of these matters, especially the Edward S. Harkness Hall dormitory, the advising program, parking and safety and issues surrounding how the academic

environment influences student well being. The CWBS has sought to define its role in the medical school as being a forum for discussion, an ombudsman for student complaints, and a central clearing-house for improving student life. The CWBS was originally envisioned as an entity through which interested and motivated students, faculty and administrators could meet and pool resources to solve cooperatively the problems they perceived. It had not been the students' intention that this committee would solve all the myriad problems itself, but rather, that it would serve a vital role by connecting those with needs to those with resources. To this end, the CWBS has often provided the initiative to study problems faced by Yale medical students and to involve those who may influence the situation in discussion of the pertinent issues. The breadth and depth of the involvement of the CWBS in the medical center is best appreciated by examining its efforts.

FACILITIES

Last year, presentations were made by students about the Harkness Hall dormitory, which was built in 1955 and is presently the only university housing facility open to medical students. It was reported that Harkness Hall was in a state of disrepair, with conditions vividly described by students and shown to administrators with a tour of Harkness that the CWBS arranged. Acting in a "watch-dog" capacity, the committee helped to motivate some striking changes, some of which have been accomplished, others of which are still promised. New beds and mattresses, room furnishings, re-papered hallways and retiled floors have contributed much to the ambiance of the dormitory.

ADVISING

Two sorts of advising programs have attracted the attention of the CWBS; there are programs of faculty advising the students, and of students helping each other. The chaplain of the school, Dr. Alan Mermann, has taken the leadership role in overseeing the Faculty-Student Program. At present, small groups of first-year students are assigned to faculty members in the fall, and these groups may meet more or less regularly throughout the year.

Topics of discussion range from concrete suggestions for good textbooks and the recreational activities in New Haven, to more philosophical issues of what it means to be a good physician, and how best to be prepared for the continual self-education which is demanded of physicians throughout their careers. Many aspects of the program are being reviewed and guidelines will be formulated to help make this an integral part of medical student life.

Also of note in the area of advising are the student-to-student programs. This past year, in which there was a

Ian A. Cook, '87, was Student Council president at the time of the formation of CWBS, and has served as its chairman this past year. He has also served the School of Medicine as a member of the Curriculum Committee, the Medical School Council and the Ad Hoc Committee, and serves as one of two student members of the AAMC-AMA Liaison Committee on Medical Education. He has elected to exercise Yale's CWBS Study option to pursue both clinical and basic science research before beginning residency training.

The "bold experiment" undertaken by the CWBS is working. But rather than resting on its laurels, the CWBS has sought to turn attention to the intertwined issues of parking and safety and to matters of educational philosophy.

re-birth of the Third Year - First Year Program, in which a third-year student takes a group of first-year students under his or her wing, helps them to adjust to the many demands of being a medical student at Yale, and demystifies the process of learning to be a physician.

Another program of advising takes place when fourth-year students help the third-year students make their transition to the wards. In the past, this successful program consisted of one meeting in the first week of the clinical experience to discuss the transition itself, and another meeting in January to discuss what challenges the fourth year presents. This has been run by student coordinators since its inception, and the CWBS has elected to help perpetuate this program by coordinating the resources which a fourth-year student must draw upon to run the events.

ADMINISTRATION

At times, the students have felt distant from the administration of the School of Medicine. The students' sense of well being depends in a large part on the belief that those in power are actively interested in the issues which concern students. To help promote informed discussion, the CWBS developed a vehicle known as a "Town Meeting," through which the student body could have an opportunity to meet with members of the faculty or administration for open discussion. In this preliminary series of meetings, Dean Rosenberg and Associate Dean Gifford were able to discuss openly issues of mutual concern with the student body as a whole, such as the student parking situation, the medical school's commitment to minority students and to the Office for Women in Medicine and the trends in the educational mission of the school.

ACTIVITIES

One of the original charges of the CWBS was to "coordinate and promote resources." The students here are both creative and energetic, as the breadth and quality of their many academic and extracurricular activities well illustrate. Each year, certain types of projects are devised and carried out: lecture series, social functions, athletic events, doing electives away and others. Yet each year, these projects often had to be started from scratch, as there were no effective ways to help perpetuate this practical information.

The CWBS has undertaken the creation and maintenance of such a collection of information by establishing a set of open files to which all students may refer. This information, not surprisingly, comes from the narrative reports by students who have undertaken projects and who describe what was done, how it was done and how one might do things differently.

SOME ISSUES MERIT CONTINUED VIGOROUS ATTENTION

With all these things happening, one can safely say that the "bold experiment" undertaken by the CWBS is working. But rather than resting on its collective laurels, the CWBS has sought to turn the school's attention to a number of issues where significant concern still needs to be focused. The intertwined issues of parking and safety have been under much discussion, as have matters of educational philosophy by a newly-established Student Ad Hoc Committee on Educational Issues.

PARKING

Parking is one of the chronic problems which had been discussed before the MSC for about a decade. Before the Air Rights Garage was opened two years ago, the students had been led to believe that they would be able to park there. This, sadly, did not come to be, and the students who commuted to school and had been parking in other lots suddenly lost all parking privileges. The priorities list for available lots did not list students at the bottom of the list; students weren't on the list at all.

The complex political issues which involve the university, the medical center and the city have left students to park where ever they might. This has all too often meant on the street in dangerous areas in unsafe neighborhoods surrounding the medical school. Thankfully, violent assaults have been the exception rather than the rule, though thousands of dollars worth of vandalism has also occurred. Drs. Gifford and Rosenberg have worked to find ways which would allow students to come to classes with a minimal risk to property and personal safety, and discussions are on-going.

ACADEMICS AND THE STUDENT AD HOC COMMITTEE ON EDUCATIONAL ISSUES

In this past year, students became more active discussants of the educational mission of the School of Medicine. A group of students formed a working group known as the Student Ad Hoc Committee on Educational Issues. These were elected student leaders who serve on the Medical School Council, on the Curriculum Committee, as class and Student Council presidents, on CWBS, and as student representatives to the AAMC.

Why, it was asked, had these active students formed yet another committee? They were students who have worked hard toward improving the quality of education and life at this school, and were keenly aware that medical education is under careful scrutiny and re-evaluation by medical educators throughout the country. The AAMC's "GPEP Report" is the most well known of these, for example, and recom-

For an effective educational partnership to function at Yale, we must all be committed to improving the interactions between faculty, administration and students.



Ian Cook

mended ideas which sound very much like the original philosophy that motivated the educational structure known as the Yale System: an emphasis on independent learning skills rather than memorizing facts, minimizing class time in favor of seminars and labs, and reinforcing study options compatible with continued, independent learning.

As students who participate on various administrative and educational committees, they were also keenly aware that the new administration has fostered a re-examination of parts of the Yale System and has proposed changes, especially regarding evaluation and the place of the National Board examinations in the medical school curriculum.

At first, student concerns centered on how instituting exams might affect the education and experience at Yale. It was felt that to examine this issue, a *dialogue* was needed between students who had worked on curriculum committees, those who had worked on administrative organs, for example the Medical School Council, and those who worked on issues of student well being, for example the CWBS. Such a dialogue, it seemed, was unfortunately not consistently present among faculty members of these same groups. After numerous meetings, heated debate and much soul searching, it was recognized that exams were *not* the issue; rather, that what was needed was a comprehensive, objective look at the Yale System, its strong points and its relative weaknesses.

To help identify the school's underlying strengths and problems, the Ad Hoc Committee has surveyed the students on numerous occasions. The committee and CWBS were responsible for planning and conducting the "Town Meetings" with the deans. After many months of study and discussion, a number of core concerns emerged and were shared with the faculty and the administration. Students have raised the question of how Yale can best offer medical education which prepares one for a career in medical practice, research or teaching given the rapidly changing nature of medicine itself. Many of the nation's brightest medical educators are studying how best to train physicians in the face of an "information explosion" in the basic and clinical sciences.

A fundamental finding which has come forth from the discussions is that it is more demanding to be successful in running an open educational system, whose end goal is students who have mastered the skill of educating themselves and taking responsibility for their own continuing education, than in running a regimented one. It requires considerable individual interaction between the students and faculty, the kind of interaction that doctoral students enjoy at Yale.

The CWBS and students at large, realize that for an effective educational partnership to function at Yale, we must all be committed to improving the interactions between faculty, administration and students.

DR. BARBARA BACHMANN

—her work affects literally thousands of research projects around the world

Although the exact nature of Dr. Barbara Bachmann's work is known to only a few people in the medical school, thousands of scientists from the world over refer to her laboratory. Dr. Bachmann, senior research scientist in the Department of Human Genetics, is curator of the *Escherichia coli* Genetic Stock Center located in the Sterling Hall of Medicine. Last month, the United States Federation for Culture Collections honored her with the J. Roger Porter Award in recognition of her efforts in developing and preserving this important international resource for biomedical research.

"The award is well deserved," commented Dr. Edward A. Adelberg, professor of human genetics, whose own extensive collection of genetically marked strains of *E. coli* was the nucleus of the stock center's collection.

"Barbara Bachmann's research and the data she has compiled have systematized the genetics of this complex bacterium to a degree unequalled for any other organism," he said. "Her publications on *E. coli* are recognized as milestones in the literature, and the genetic map and charts of various pedigrees of the bacteria she has prepared are the referral base for all scientists who do molecular genetics."

The *E. coli* Genetic Stock Center contains more than 5,000 mutant strains of this bacterium, which for many years has been the most convenient and widely used organism for elucidating fundamental biochemical and genetic mechanisms common to most living things. The strains are stored in a freeze dried state and also as glyceriolized liquid cultures in Dr. Bachmann's compact laboratory, along with meticulous records and files on each of the 5,000 strains.

Last year, more than 6,000 requests were received and filled by Dr. Bachmann and her assistants, Cynthia DelVecchio and Ann Hayden. The stock center is far more than a repository for genetically marked strains of *E. coli* and the service that sends them out on request, however. Each request filled is accompanied by papers listing the name,



Dr. Bachmann

designation, sex and chromosome markers of the particular strain and a note, "Please return the second sheet with your comments on it. We need this feedback."

Dr. Bachmann takes these comments into account, according to Dr. K. Brooks Low, professor (adjunct) of research in therapeutic radiology and a long-time user of the collection. "Scientists frequently consult her about the appropriateness of a particular strain to their research," explained Dr. Low. "Her knowledge of every facet of this immense collection and her ability to interpret the experiences of the scientists who use it, make her unique in the field of organism collections."

The *E. coli* Genetic Stock Center began in the 1960's in Dr. Adelberg's laboratory. A pioneer in the field of *E. coli* bacterial genetics, he had built up one of the largest collections at the time of genetically marked strains of *E. coli* anywhere. "Defacto, my lab had become the center for their distribution to scientists in this country and abroad,"

recalled Dr. Adelberg. "The requests became so numerous that responding to them became a burden."

Dr. Bachmann came to the laboratory as a research associate in 1968 from the Department of Microbiology at New York University Medical Center. "Not only did she reorganize my entire collection, she began acquiring hundreds of key strains from well-known collections in France and England as well. By painstakingly researching the notebooks of the scientists, she was able to trace the pedigree of each of the strains, which she then published." The *E. coli* Genetic Stock Center has received funding from the National Science Foundation since 1971.

A graduate of Baker University, Baldwin City, Kansas, Barbara J. Bachmann received a M.S. degree in bacteriology from the University of Kentucky in 1947, and a Ph.D. degree in microbiology in 1954 from Stanford University, where she worked under the preceptorship of the eminent microbiologist, the late C.B. van Niel. She first came to Yale in 1958 as a lecturer in microbiology, and returned in 1968 after four years at N.Y.U. Medical Center.

In addition to her curatorial position, she is a lecturer in the Department of Biology and has taught microbiology there for 23 years. "Her students are fortunate," said Dr. Adelberg. "She is an excellent and dedicated teacher who teaches in the ecological tradition of enrichment culture taught by her mentor, Dr. van Niel."

A quiet, unassuming and intensely private person, Dr. Bachmann sets very high standards for everything she does, including her hobbies, according to Dr. Low. She was overheard a few years ago telling a friend that she had just purchased a garden with a house. "That is a typical reflection of her love for gardening," said Dr. Low. "She is as well, an enthusiastic bird watcher and keyboard musician."

"Barbara Bachmann is an unusual person," said Dr. Adelberg. "Everything she does is meticulously and intelligently done — examples of how things *should* be done." — Marje Noyes

PERCEPTIONS OF RISK

The importance of the public's perceptions of risks lies in the impact they have on decisions of lawmakers.

by Grace Breitstein

A mother and infant are blown out of an airliner in a terrorist attack in Europe. Swedish Prime Minister Olof Palme is gunned down and his assailant remains unknown. A nuclear power meltdown in Russia leaves some dead, many hospitalized and surrounding countries in a panic over radiation levels.

Although isolated incidences, each front page report scares and moves the public to exercise greater caution and perhaps to take action to improve the safety of a particular technology. They shape the general public's perceptions of such technologies as air travel, hand guns and nuclear power.

The most important effect is the insecurity and fear generated in the public, but another important consequence of these perceptions, one researcher notes, lies in the ultimate effect they have on the decisions reached by state and federal lawmakers.

"Political actions by individuals in power are more likely to be taken based on the perceptions people have rather than on the actual risks," says Dr. Jan A.J. Stolwijk, Susan Dwight Bliss Professor and chairman of the Department of Epidemiology and Public Health.

With that in mind, Dr. Stolwijk and several colleagues set out to analyze "people" perceptions. They evaluated the general public's perceptions of the risks, benefits and the current strictness of safety standards in six controversial areas

handguns, nuclear power, nuclear weapons, industrial chemicals, automobile travel and air travel.

Their findings provide insights into the psycho-social factors that influence how perceptions form.

"People live with a presumption of safety. It allows us not to worry constantly about what might go wrong. When something happens to change that presumption, such as what happened at Love Canal, restoring it may be almost impossible," says Dr. Stolwijk, one of a team of consultants investigating the habitability of New York's Love Canal, from where 239 families were relocated in 1978 and 1979 due to chemical spills.

Often, individuals exaggerate the risks of a technology to further environmental goals, according to Dr. Stolwijk, causing unnecessary anxiety. At Love Canal, for example, the risks have not proved high but fear runs high because of misinformation.

These days, it seems like the 'in' thing is to make people aware of the terrible dangers that might lurk around the corner,"

"Familiar risks are more likely to be ignored. You feel you are not going to get into an automobile accident. But if chemicals are spilled by some large, impersonal corporation, and moreover, those chemicals could cause an incurable disease, you're going to perceive the risk of that technology as higher, even if more people die from automobile accidents than from chemical spills."

Findings of the two-year, \$500,000 study, funded by the National Science Foundation, will be published by the Russell Sage Foundation Press in New York City. The report, in book form, is being written by Dr. Leroy C. Gould, professor of criminology at the University of Florida in Tallahassee, who was a coinvestigator of the study.

The general public's perceptions were compared with those of two other groups: technology and environmental advocates. Each group reported the level of strictness they desired for regulations in each area, so that their desire for safety could be compared with their perceptions of current safety standards. To analyze the relationship between perceived risks and actions taken, the researchers assessed the number of political actions members of each group reported taking in each category.

Highlights of the findings show the general public:

- Perceives an even greater need for stricter safety standards for using industrial chemicals than the environmental advocates. "We're now dealing with strong political pressure from the public for further regulation on industrial chemicals when strict standards may already be in place," says Dr. Stolwijk.

- Takes more frequent action, from signing petitions to suing, than previously believed, according to Dr. Stolwijk.

- Perceives handguns, automobile travel

and air travel as a "very great" risk more often than either advocacy group.

— Perceives a relatively low risk for automobile travel and a very high risk for being exposed to industrial chemicals. The perception of lack of control over a particular technology can cause its risk to be perceived as high, he explains.

"Familiar risks are more likely to be ignored," he says. "You feel, after all, that you are not going to get into an automobile accident. But if chemicals are spilled by some large, impersonal corporation, and moreover, those chemicals could cause an incurable disease, you're going to perceive the risk of that technology as higher, even if more people die from automobile accidents than from chemical spills."

Demographic factors, such as age, sex, education or income, didn't seem to influence the perceived risks and benefits of a technology, according to the study.

The Yale Roper Center, a survey research resource for faculty members throughout the university, conducted interviews in Connecticut. The National Opinion Research Center, a non-profit organization associated with the University of Chicago, did the field work in Arizona.

Some 400 questions were asked of 1,320 people, 1,021 of whom were sampled from the general public, with the remainder making up the advocacy group samples.

Coinvestigators included Drs. Donald R. DeLuca and Wendy Horowitz, associate research scientists at the Institution for Social and Policy Studies; Dr. Leonard W. Doob, Sterling Professor Emeritus of Psychology; Dr. Gerald T. Gardner, professor of psychology at the University of Michigan in Dearborn and Dr. Adrian Tiemann, of Digital Interface Inc., a Manhattan consulting firm.

Post script: The Russian reactor failure at Chernobyl indicates that in a more closed society in which news and information is tightly controlled, the public perceptions are quite different, Dr. Stolwijk observed. "It is likely that the level of concern in neighboring countries downwind from the stricken reactor was greater than in nearby Kiev, the third largest city in the U.S.S.R. It is clear that the risk to the immediate surroundings beyond the evacuation zone was much greater than the risk to Poland or Sweden," he says. "The public perceptions which were studied in the U.S. clearly rely on a free flow of information and effective news coverage by the media."

MR Center Open For Patient Care

On May 15, after months of careful planning to the last detail, the patient care facilities of the Magnetic Resonance Center were opened. The research component of the center is expected to be completed later this summer, and a dedication ceremony is being planned for early fall.

A joint project of the School of Medicine and Yale-New Haven Hospital, the MR Center will bring together the institutions' research and clinical activities in magnetic resonance technology — considered one of the most important developments in medicine in this decade. When completed, the building including offices, laboratories and patient care rooms, will be equipped with two whole body scanners, a small animal instrument and a high-field spectrometer. The four magnets will have a combined strength of almost 450,000 times that of the earth's magnetic field — a factor that was key to the planning of the building.

Funding for construction of the new facility was provided in part by two major gifts to the School of Medicine and by generous donations to the hospital's Annual Appeal.

The Pew Memorial Trust of Philadelphia gave \$1.5 million toward construction of research space, and Mr. and Mrs. Adrian C. Israel of Stamford, Connecticut, and their family contributed \$1,250,000 toward building projects in the center. Both gifts were contributed as part of the school's \$125 million capital campaign, announced a year ago.

In addition, General Electric Company, manufacturer of the magnetic resonance imagers, lent philanthropic support through a significant discount toward the clinical care unit. In addition, GE presented a major donation for the building, furnishing and equipping of the MR Center conference room. The company also has a research agreement with the School of Medicine to contribute ongoing funds to support MR research.

Yale Eye Center Opens

A clinical symposium of distinguished ophthalmologists followed by a gala dinner dance celebrated the opening of the Yale Eye Center for Clinical Research on April 10-11. The events, which also included a special program for ophthalmic nurses and technicians, were typical of the scholarship, dedication and creativity that have marked the development of the center all along.

Sponsored by the Department of Ophthalmology and Visual Science, the clinical symposium, "Perspectives in the Management of Eye Disease," brought together a group of 40 internationally prominent professionals to present and discuss critical issues in the study and treatment of eye diseases.

"Our goal in sponsoring this event was to share knowledge about scientific advancements, and debate new methods of intervention and correction of eye disease to develop perspectives in management," said Dr. Marvin Sears, chairman of the Department of Ophthalmology and Visual Science since its establishment in 1971, and a recognized leader in research on diseases of the eye. Under Dr. Sears' leadership, the department has earned a world-wide reputation for its significant contributions to the development of treatments for blinding eye diseases.

The \$2.5 million project, the culmination of 23 years of planning by Dr. Sears, is a regional, national and international referral resource for persons requiring diagnosis and treatment of eye diseases. Housed in the extensively renovated Boardman Building, which is centrally located in the Medical Center and adjacent to the Department of Ophthalmology and Visual Science's research laboratories, the new Eye Center will integrate patient care with basic research and teaching activities. With an entrance off Cedar Street, the center includes a general eye clinic, and treatment centers for retinal and corneal diseases, strabismus and glaucoma.

Cancer Control Research Unit Established at Yale With a \$6.5 Million Grant

Connecticut will become a national laboratory for research in controlling cancer with the establishment of the Cancer Control Research Unit for Connecticut at Yale. Announcement of the new program, which was awarded \$6.5 million for the first three years by the National Cancer Institute, was made at a press conference on April 8.

"Connecticut's longstanding fight against cancer takes yet another important step forward today," said Connecticut's Governor William O'Neill at the press conference. "The fact that our state has been singled out by the National Cancer Institute for this grant speaks volumes about our state. The \$6.5 million grant says, or perhaps reaffirms, that Connecticut is at the forefront of medical inquiry and consequently, medical treatment."

Dr. Dwight T. Janerich, professor of epidemiology and public health and medical director of the State of Connecticut Tumor Registry, will direct the program, with Marion E. Morra, assistant director of the Yale Comprehensive Cancer Center, responsible for the outreach components. In addition to the Cancer Center, participating agencies will include the Yale Department of Epidemiology and Public Health, the State of Connecticut Department of Health Services and the University of Connecticut Health Center.

Program is only the second federally funded program of its kind

The program, which was awarded following intensive national competition, and is one of only two such programs in the nation, will have seven major projects: improving early detection of cervical cancer; decreasing adolescent use of smokeless tobacco; effects of race and social factors on stage at diagnosis; interventions to improve use of breast cancer screening; case-control study of lethal melanoma and skin examinations; microbial and biochemical predictors of colorectal carcinoma, and a paired-community approach to colorectal cancer control being conducted in collaboration with the School of Medicine, State University of New York at Stony Brook.

"We believe that with the help of the many agencies in Connecticut involved in the fight against cancer, this major effort in cancer control can find new means to detect and prevent some of the most serious forms of cancer, making our Connecticut-based program a national model for cancer control," said Dr. Alan C. Sartorelli, director of the Yale Comprehensive Cancer Center.

Advisory committees will monitor and review the Cancer Control Research Unit's Program

Two committees have been formed to advise the program. The first, the Connecticut Advisory Committee, has been established to ensure that the major organizations are kept informed and participate actively in the project. This committee has been structured to allow maximum participation at a decision making level by major health agencies and institutions in the state.

The second group, the Scientific Advisory Committee, includes people internationally known in the field of cancer research who review the work accomplished and advise on future research directions. This committee is composed of experts in the fields of cancer epidemiology, cancer control, behavioral science and health policy management.

Community Mental Health Leader Appointed Chairman of Psychiatry



Dr. Tischler

Dr. Gary L. Tischler, professor of psychiatry and director of the Yale Psychiatric Institute, has been appointed chairman of the School of Medicine's Department of Psychiatry and chief of the psychiatry service at Yale-New Haven Hospital, effective July 1.

He succeeds Dr. Morton F. Reiser, the Charles B.G. Murphy Professor of Psychiatry, who has been chairman of the medical school's department for 16 years, and Dr. Malcolm B. Bowers, Jr., the hospital's chief of psychiatry since 1973. In addition, Dr. Tischler will continue as director of Y.P.I., a position he has held since 1979.

On his appointment, Dean Leon E. Rosenberg said, "Gary Tischler possesses the experience and vision to lead one of this country's truly premier psychiatry departments—a department which spans the broad spectrum of biological, psychological and social dimensions of mental health and illness in human life. He has demonstrated outstanding skills as an administrator, educator and researcher and is dedicated to quality clinical services for mentally ill people."

Dr. Tischler, who also directs Yale's Mental Health Services Research Training Program, has focused his career on community mental health issues. He also has a strong interest in social psychiatry and psychiatric epidemiology.

He joined the Yale medical faculty in 1967 as assistant professor, and from 1967 to 1978, concurrently was associated with the Connecticut Mental Health Center, serving as associate director for six years. Dr. Tischler chairs a National Institute of Mental Health's study section on epidemiology and mental health services research. In 1978-79, he was the study director of President Jimmy Carter's

Commission on Mental Health which led to recommendations regarding future directions for community mental health services and mental health evaluation and research.

A native of Newark, New Jersey, Dr. Tischler received an A.B. degree in 1957 from Hamilton College and an M.D. degree in 1961 from the University of Pennsylvania. He completed an internship at Kings County Hospital in Brooklyn, New York, and a residency training in psychiatry at Yale. He served in the U.S. Army Medical Corps from 1965 to 1967.

He has written more than 70 publications in areas of psychiatric epidemiology, health services research and social psychiatry. Active in numerous professional organizations, Dr. Tischler is a fellow of the American Psychiatric Association, American College of Mental Health Administration and the American Association for Social Psychiatry.

Dr. Tamborlane Named Program Director of Children's CRC

Dr. William V. Tamborlane Jr., professor of pediatrics, has been named program director of the Children's Clinical Research Center and head of the Division of Endocrinology and Diabetes. In these appointments, he succeeds Dr. Myron Genel, associate dean for government and community relations.

The school's five-bed Children's Clinical Research Center provides a clinical setting for physicians to study medical and neuropsychiatric disorders. Opened in 1963, it is among 78 such centers at major medical institutions in the U.S., supported by grants from the U.S. Public Health Services, National Institutes of Health's Division of Research Resources.

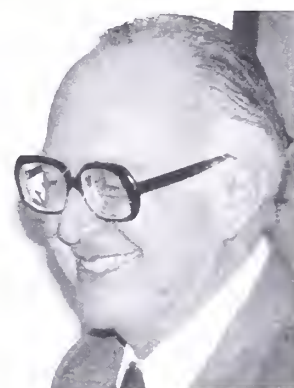
Dr. Tamborlane, who has focused his research on insulin-dependent diabetes in children and young adults, was one of the first to introduce constant infusion insulin therapy using a portable pump. At present, he is conducting metabolic studies in diabetes to prevent long-term degenerative complications, such as blindness and vascular problems.

Dr. Tamborlane received a B.S. degree in 1968, and an M.D. degree in 1972 from Georgetown University and completed his residency training at Georgetown University Hospital. Following a postdoctoral fellowship at the Yale School of Medicine, he joined the Yale faculty in 1977 as an assistant professor of pediatrics. Last year, the Juvenile Diabetes Foundation presented him the Mary Jane Kugel Award in recognition of his contributions while serving a three-year term on its Medical Science Advisory Board.

Four Members of Faculty are Honored



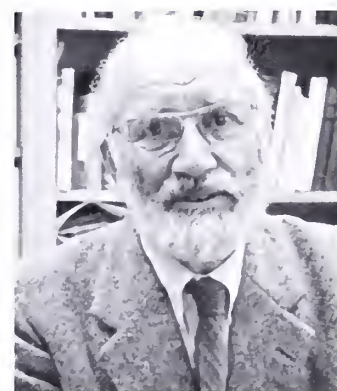
Dr. Reiser



Dr. Glaser



Dr. Morris



Dr. Downs

Dr. Reiser, Chairman of Psychiatry for 17 Years

A "Mind, Brain and Body" symposium in May brought together leading neurobiologists and psychoanalysts to share knowledge of brain mechanisms underlying human behavior and mental phenomenon, and to honor Dr. Morton F. Reiser, the Charles B.G. Murphy Professor of Psychiatry, who retires as chairman of the Department of Psychiatry on July 1.

Past president of the American Psychoanalytical Association, Dr. Reiser has helped chart national directions for neurobiological research and, as an educator, invented ways of combining teaching about neuroscience and psychological theory in order to enhance the practice of the disciplines. A graduate of the University of Cincinnati, where he received B.S. and M.D. degrees, he has been a member of the Yale medical faculty since 1969.

"In much of his work over the years, Dr. Reiser has been trying to connect the psychology and social psychology of behavior with the biology of behavior and understand how they interrelate," said Dr. Boris M. Astrachan, professor of psychiatry and director of the symposium. "The goal of the symposium was to get various disciplines talking together in what is now considered one of the hottest areas of science," said Dr. Astrachan.

"We're learning that this elegant nervous system which mediates in our feelings and sensations is very similar to the nervous system of lower animals and gets elaborated in this thinking brain, a remarkable organism that is able to remember and build upon memory."

Dr. Reiser is the author of "Mind, Brain, Body: Toward a Convergence of Psychoanalysis and Neurobiology" (1984) and co-author of "The Patient: Biological, Psychological and Social Dimensions of Medical Practice" (1980). A fellow of the American Association for the Advancement of Science and of the American College of Psychiatrists, he also serves on the editorial boards of publications, including "Psychoanalysis and Contemporary Science," "Psychiatry in Medicine" and the "International Journal of Psychoanalytic Psychotherapy."

Dr. Glaser, First Chairman of the Department of Neurology

Some 25 neurologists, present and former colleagues of Dr. Gilbert H. Glaser, discussed advances in understanding and treating diseases of the nervous system at a May 17 symposium honoring the first chairman and founder 34 years ago of the Yale Department of Neurology. Dr. Glaser is retiring as chairman as of July 1.

"Everything that has occurred in the department is directly or indirectly a result of Dr. Glaser's efforts," said Dr.

Jonathan H. Pincus, professor of neurology, who was director of the all-day symposium. "His contribution to neurology has been tremendous."

Dr. Glaser joined the medical school in 1952 after positions that included chief resident in neurology, senior research scientist and chief in neurology, senior research scientist and chief of the neurology clinic at Columbia-Presbyterian Medical Center in New York. Dr. Glaser graduated in 1943 with honors from Columbia University's College of Physicians and Surgeons.

In the last 20 years, Dr. Glaser focused the department's research effort on epilepsy. In addition, under his leadership, Yale physicians were among the first to participate in clinical trials of L-dopa, the most effective treatment for Parkinson's disease.

"His contribution to neurology has been tremendous," said Dr. Pincus. "There is literally not a subject he hasn't written about," he added, referring to Dr. Glaser's more than 200 published articles addressing the subjects of epilepsy, movement disorders, demyelinating disease, muscle disease, the complications of internal diseases and the borderline between neurology and psychiatry.

Participants in the symposium discussed these topics and others in tribute to Dr. Glaser's accomplishments.

Dr. Morris, Distinguished Gynecologist

Friends and colleagues paid tribute to Dr. John McL. Morris with a symposium and dinner dance on April 19. The occasion celebrated the noted gynecologist's 34 years as a dedicated teacher, physician and researcher.

Dr. Morris, the John Slade Ely Professor Emeritus of Gynecology, is a graduate of Harvard Medical School. Following residency training at the Massachusetts General Hospital, he was a Damon Runyon clinical research fellow at the Radiumhemmet in Stockholm, Sweden, before joining the Yale medical faculty in 1952 as an associate professor.

The gynecologic service at Yale was developed under the leadership of Dr. Morris, who is widely recognized as an outstanding clinician. In addition, he is recognized worldwide for research in the treatment of gynecologic neoplasms, and for his contributions to conception control.

Among the participants in the symposium honoring Dr. Morris were four members of the Yale medical faculty: Drs. Virginia Stuermer, associate clinical pro-

fessor of obstetrics and gynecology; James J. Fischer, professor and chairman of the Department of Therapeutic Radiology; Peter E. Schwartz, professor of obstetrics and gynecology, and Frederick Naftolin, professor and chairman of the Department of Obstetrics and Gynecology.

Dr. Downs, Founder of the International Health Travel Fellowship Program

The School of Medicine's international health travel fellowship program has been named in honor of its founder, Dr. Wilbur G. Downs, clinical professor of epidemiology.

"The travel program is now a cherished tradition here at Yale and the envy of other institutions," said Dr. Curtis L. Patton, professor of epidemiology (microbiology) and chairman of the school's Committee on International Health. He outlined the program's history at a May 15 dinner, honoring Dr. Downs and announcing that the fellowships have been designated the Wilbur G. Downs International Health Travel Fellowships.

While Dr. Downs was associate director of The Rockefeller Foundation, he conceived the idea for the international travel program. It started in 1965 with three students traveling to Brazil and in 1986, 14 students will visit 13 countries.

During the intervening years, more than 180 students have participated in the program that Dr. Downs initiated to give students the experience of working for at least two months and sometimes as long as a year on a specific project in a research laboratory or in the field in a foreign country. The students selected, receive travel expenses and a minimal stipend. In turn, they report on their research and travel experiences — experiences which have influenced many career choices.

Dr. Downs, who received A.B. and M.D. degrees from Cornell University and an M.P.H. degree from The Johns Hopkins School of Medicine, was associate director of The Rockefeller Foundation from 1963 to 1971. For 22 previous years, he was a foundation field staff member, responsible for malaria field programs in Trinidad and Mexico. In 1963, he was appointed professor of epidemiology at Yale, and from 1965 until 1971, he directed the Yale Arbovirus Research Unit.

Dr. Downs is a member of the Expert Committee on Viruses, World Health Organization. He has been the principal investigator of the Senegal River Pilot Health Program, a Yale project sponsored by the U.S. Agency for International Development.

FACULTY NEWS

Dr. William Prusoff, a distinguished research scientist in antiviral therapy, visited Meharry School of Medicine in April as the college's first Sterling Drug Visiting Professor. During his visit, Dr. Prusoff, professor of pharmacology, delivered the first Ralph Cazort Lecture on "The Present and Future Status of Viral Chemotherapy." The Sterling Drug Company has established the visiting professor program to promote the interchange of knowledge among colleges in the field of pharmacology.

Dr. Michael J. Bannon, assistant professor of psychiatry and pharmacology, **Dr. Robert B. Innis**, assistant professor of psychiatry (neuroscience), and **Dr. Rodrigo O. Kuljis**, instructor in neuroanatomy, have been awarded \$25,000 Sloan Research Fellowships. The award program established by the Alfred P. Sloan Foundation of New York, aids young scientists who teach at American colleges and universities.

Dr. Alan C. Sartorelli, director of the Comprehensive Cancer Center, began a one-year term as president of the American Association for Cancer Research Inc. on May 7, at the association's annual meeting in Los Angeles. The association brings together cancer researchers to discuss new or significant observations and to foster research on cancer.

Earlier this spring, Dr. Sartorelli received the bronze medal award for experimental therapeutics from the American Society for Pharmacology and Experimental Therapeutics during the society's annual meeting held in St. Louis.

Eleven young scientists in the Yale Comprehensive Cancer Center have received the New Haven Foundation's Argall L. and Anna G. Hull Cancer Research Awards. They are Drs. **Paula Kavathas**, assistant professor of laboratory medicine; **Richard Anderson**, postdoctoral fellow in pathology; **John Woods**, postdoctoral fellow in cell biology; **Susan Keyes**, associate research scientist in pharmacology; **Susan Kelley**, postdoctoral fellow in oncology; **John Flory**, research associate in human genetics; **Bruce Littlefield**, assistant professor of obstetrics and gynecology; **Jeffrey Radding**, postdoctoral fellow in internal medicine; **Basil Rigas**, postdoctoral fellow in human genetics; **Grace Vitkauskas**, associate research scientist in pharmacology. Also, **Dr. Alfons Bonde**, research associate in internal medicine, and **Mary Kay Knopf, R.N., M.S.N.**, nurse specialist and lecturer in surgery (radiology).

Dr. George E. Palade, professor emeritus of cell biology, special advisor to the dean of the School of Medicine and senior research scientist in cell biology, has been named to a four-year term on the Advisory Committee to the director of the National Institutes of Health.

In addition, Dr. Palade received honorary degrees from two distinguished universities this spring. Columbia University awarded him an honorary doctor of science degree for the "isolation and characterization of subcellular components as a major research tool," and for solving "the major problem of fixation of tissues for electron microscopy, enabling that technique to become a critical tool for research in biology and diagnosis in medicine." At commencement exercises in June, New York University awarded Dr. Palade a doctor of science degree for "bringing the light of understanding to the microcosmos of the living cell."

The American Cancer Society has awarded a two-year grant of \$151,000 to **Dr. Kenneth Taylor** for the study of tumor vascularity by means of the use of Doppler Ultrasound. Dr. Taylor, professor of diagnostic radiology, is well known for developing the use of ultrasound for diagnostic procedures.

The honor of Fellow of the Institute was conferred on **Dr. Robert Shope** by the Queensland Institute of Medical Research in recognition of his distinguished contributions to the furtherance of medical science. Dr. Shope is professor of epidemiology and director of the Yale Arbovirus Research Unit.

Dr. Joseph McGuire, professor of dermatology, who was recently appointed president-elect of the Society of Investigative Dermatology, was visiting professor of dermatology at Hunan Medical College during April and May.

The Yale Science and Engineering Association has presented its 1986 Award for the Advancement of Basic and Applied Science to **Dr. Alvan R. Feinstein**, professor of medicine and epidemiology, and co-director of the Robert Wood Johnson Clinical Scholars Program at Yale. The association, which includes some 1,000 Yale science and engineering alumni, honored Dr. Feinstein for his work to advance quantitative research in epidemiology and for his efforts in establishing clinical epidemiology as a new scientific discipline in medical research.

Dr. Norman Talner, professor of pediatrics, is one of four cardiologists appointed as Fulbright visiting professors in a teaching program in Hong Kong, Kuala Lumpur, Malaysia and Rangoon, Burma from March 27 to April 11. The good-will medical science mission, conducted at the

request of medical societies of those countries, was jointly sponsored by the American College of Cardiology and the Fulbright Commissions.

Dr. Pasko Rakic, Dorys McConnell Duberg Professor of Neuroscience and chairman of the Section of Neuroanatomy, organized a conference entitled "Brain Beyond Genes: Epigenetic Regulation of Synaptic Circuits and their Function", held in New York City on June 2-4.

Dr. Rakic was one of 15 scientists to present data and ideas about the molecular, cellular, physiological and psychological mechanisms underlying cellular interactions in the brain and their biomedical and social implications. The conference was sponsored by the Institute for Child Development Research.

The New Haven Foundation presented an Elm-ivy Award to **Kay D. Codish**, citing her as a force in "creating, implementing and monitoring policies on affirmative action, sexual harassment and day care." In addition to directing the School of Medicine's Office for Women in Medicine, Ms. Codish has been active in the AIDS Project in New Haven, the Women's Self-Defense Alliance, Arts Council of New Haven and Handicapped Artists, Inc.

BOOKS BY FACULTY

"Legal Issues in Pediatrics and Adolescent Medicine", Second Edition, Revised and Enlarged, by Angela R. Holder, *clinical professor of pediatrics (law)*. Yale University Press (New Haven, CT) 1985.

"The Psychoanalytic Study of the Child," Vol. 40, by Albert J. Solnit, *Sterling Professor in the Child Study Center, Pediatrics and Psychiatry*, Ruth S. Eissler, and Peter B. Neubauer. Yale University Press (New Haven, CT) 1985.

"The Biochemical Basis of Neuropharmacology", Fifth Edition, by Jack R. Cooper, *professor of pharmacology*, Floyd E. Bloom and Robert H. Roth, *professor of psychiatry and pharmacology*. Oxford University Press (New York) 1986.

"Reproductive Failure", edited by Alan H. DeCherney, M.D., *John Slade Ely Professor of Obstetrics and Gynecology*. Churchill Livingstone (New York) 1986.

"Understanding Your Immune System", by Marion E. Morra, *assistant director, Yale Comprehensive Cancer Center*, and Eve Potts. Avon Books (New York) 1986.



Two members of the School of Medicine faculty, Dr. George E. Palade and Dr. Joan A. Steitz, were awarded the National Medal of Science by President Ronald Reagan. They were among 20 scientists nationwide to receive the awards at the ceremony held at the White House on March 12.

Dr. Palade, Sterling Professor Emeritus of Cell Biology, special advisor to the dean, and senior research scientist in cell biology, was recognized for his pioneering discoveries of fundamental structures in living cells through studies combining electron microscopy and biochemistry. "These contributions stimulated the growth in the field of cell biology, which he continues to inspire through his own research and leadership and active col-

laboration and the training of new investigators," said the White House in awarding the prize.

Dr. Steitz, professor of molecular biophysics and biochemistry, received the national award for her discovery of at least six new components of cells which are significant in understanding the molecular biology of autoimmune diseases, such as lupus and rheumatoid arthritis. "Her discovery of at least six new components of cellular machinery is an accomplishment of great distinction in both basic molecular biology and in the clinical treatment of autoimmune disease," said the White House. Receiving the award from President Reagan, said Dr. Steitz, "was a great honor."

Animal Care Program Receives Full Reaccreditation

The American Association for Accreditation of Laboratory Animal Care (AAALAC) has approved full reaccreditation for three years for the School of Medicine's animal care program.

In addition, the National Institutes of Health's Division of Research Resources has awarded the medical school a \$771,000 grant to help renovate laboratory animal facilities in Sterling Hall of Medicine.

"Reaccreditation and the NIH renovation grant are major acknowledgements of the school's comprehensive program for the care of laboratory animals used in more than 300 biomedical research projects," according to Dr. Robert O. Jacoby, associate professor of comparative medicine and head of the Division of Animal Care.

AAALAC, a national nonprofit organization, inspects and accredits laboratory animal programs. The medical school's participation in the program, which began in 1967, is voluntary.

"Accreditation by AAALAC is viewed by the NIH as the best means to demonstrate compliance with regulations and policies that govern the care and use of animals in federally sponsored research," explained Dr. Jacoby. Yale's Animal Care and Use Committee, chaired by Dr. Martine Y.K. Armstrong, intensified reviews of research that involves animals before new federal regulations governing animal use became effective January 1, according to Dr. Jacoby.

ERRATUM

An item in the fall 1985 issue (Here and About, page 20) states that Dr. John A. Kirchner came to Yale in 1951 as the first full-time chief of the Section of Otolaryngology. It has been brought to our attention that Dr. Norton Canfield was the first full-time chief of that section from 1933 to 1951. Dr. Canfield is currently living in Miami, Florida, and recently has been consultant in audiology at the Miami Hearing and Speech Center working on the cochlear implant project.

IN PROGRESS

New Drug Combination to Treat Brain Tumors

A new, investigational treatment for malignant glioma, the most common of adult brain tumors, has been developed at the at the Yale School of Medicine.

Combining a known chemotherapeutic agent with a class of anti-psychotic drugs appears to markedly increase the killing of tumor cells, according to researchers in the Brain Tumor Study Group at the Yale Comprehensive Cancer Center. They have studied the safety of this treatment in the past year, during the first phase of a clinical trial that involved 18 patients.

"We are encouraged by our preliminary results in the laboratory and are optimistic that the combination will be well tolerated," said Dr. William N. Hait, assistant professor of medicine, in whose laboratory the project began in collaboration with Dr. John S. Lazo, associate professor of pharmacology.

The anti-psychotic drugs, known as phenothiazines, concentrate in the brain and may overcome a major problem in treating malignant glioma — the inability of most cancer-fighting drugs to get from the blood into the brain. Phenothiazines appear to inhibit the protein calmodulin that is involved in cellular division, thus helping the chemotherapeutic agent bleomycin to attack cancer cells and halt the tumor's growth, the researchers report.

The high-grade brain tumor, glioblastoma multiforme, is usually incurable and fatal. The most common treatment involves surgery, in which part of the tumor is removed. Radiation and chemotherapy treatments follow.

"Because of the tumor's nature, it's difficult to remove it entirely, without removing a small portion of the normal brain, sometimes leaving the person with impaired function," said Dr. Hait.

In the newly developed treatment, laboratory studies demonstrated that the ability of the chemotherapeutic agent, bleomycin, to kill cancer cells increased.

"Our studies showed that when calmodulin inhibitors were combined with bleomycin, almost 500 times more cancer cells were killed than when either drug was given independently," said Dr. Hait. He and Dr. Lazo first conducted animal studies and then a study in patients to assure the safety of the combination.

The 18 patients treated had no longer responded to traditional chemotherapy, said Dr. Hait. The clinical trial, approved by the medical school's Human Investigation Committee, was designed to help the researchers determine the tolerable doses of phenothiazines with bleomycin and

the side effects resulting from the new drug combination.

Preliminary results have proved "promising," according to Dr. Hait. Most patients tolerated the drug combination very well compared to patient responses to most chemotherapies, although the expected side effects of chemotherapy occurred. These preliminary results are summarized in the current proceedings of the American Society of Clinical Oncology. A full report has been submitted to *Cancer Treatment Reports*.

Side effects, all related to the anti-psychotic drug, included sleepiness and some anxiety that discontinued as soon as the treatment was stopped. Some lung toxicity resulted from the bleomycin, but not greater than expected from this drug used alone, the researchers reported.

They chose to focus on brain tumors, rather than on another form of cancer, because of phenothiazines' action in the brain. "The striking thing about phenothiazines is that they accumulate in the brain, thereby concentrating in the area that they are needed in concentration," commented Dr. Hait.

Most drugs don't reach as high concentrations in the central nervous system as they do peripherally because of a phenomenon known as the "blood brain barrier," which keeps things out of the brain. Phenothiazines can pass through that barrier, explained Dr. Hait, and potentially augment the effects of bleomycin.

Coinvestigators in the multidisciplinary Brain Tumor Study Group include Drs. Joseph Piepmeier, assistant professor of surgery (neurosurgery); Thomas N. Byrne, assistant clinical professor of neurology; Henry J. Durivage, associate research scientist in medicine, and Douglas Reed, assistant professor of diagnostic radiology. The American Cancer Society, the National Institutes of Health and Bristol-Myers Company in Wallingford, funded the study with basic research grants totaling \$162,500.

Yale Researchers Achieve Breakthrough in Treatment of Severe Burns

A new chapter in the annals of transplantation was written recently by a team of Yale-New Haven Medical Center physicians who successfully treated a critically injured burn patient by transplanting skin donor dermis and the patient's own laboratory-cultured epidermis to the wound site.

The procedure, announced at a hospital news conference on April 4, marks the first time human skin has been permanently transplanted from donor to host without the use of immunosuppressives. The breakthrough was made by three Yale School of Medicine physicians: Drs. Charles Cuono, associate professor of surgery (plastic and reconstructive), Robert Langdon, assistant professor of dermatology and Joseph McGuire, professor of dermatology.

Over the last decade, skin transplantation has been used widely to treat burn victims, but because of the rejection-phenomenon, the use of full-thickness donor skin (dermal and epidermal layers) can be applied only as a stopgap measure. Through the Yale team's work, however, it appears dermal transplants can be permanently accepted by the host if the donor epidermis is removed.

It was November of last year when a white, middle-aged male was brought to Yale-New Haven Hospital with third degree burns to 55 percent of his body from his chest to his ankles. Placed under the care of Dr. Cuono and the nurses in the Surgical Intensive Care Unit, the patient's injured skin was debrided and cryopreserved cadaver allograft skin from the Yale Skin Bank was placed on the wound bed.

Keratinocyte cultures were initiated with cells from the patient's uninjured skin and these cultures were expanded *in vivo*. Techniques similar to those used by Dr. Langdon to expand the cultures had been used elsewhere in the United States but through his refinements in the process, he was able to expand the cultures more rapidly.

On the patient's 32nd day in the hospital, a cylindrical air-driven carborundum wheel was used to literally sand off the epidermal layer of the allograft on his torso, leaving only the less antigenic dermal bed. The patient's own epidermal cultures, grown in 35 six-centimeter dishes, were used to resurface this exposed dermal bed. Each disc of epidermis was approximately two-cells thick at the time of application.

The epidermal discs were covered for seven days, and then re-examined. The physicians were excited to find the cultures had adapted to their dermal bed and

grown. The procedure was repeated on the abdomen beginning on the 42nd day, and the results were equally positive. By the 52nd day, the patient was walking and he was discharged from Yale-New Haven Hospital on the 71st day. To date, the patient has displayed no signs of rejecting the foreign dermis.

Drs. Cuono, McGuire and Langdon emphasized their achievement was built on the work of other scientists. "None of the techniques, taken individually, were developed here," Dr. Cuono said. "We've just put them together and exploited certain aspects of the biology of the skin."

The procedure demonstrated several advantages over previously applied forms of treatment. A rule of thumb is that a burn patient will require three days in the hospital for each percent of the body burned — 150 to 175 days in the case of this patient. Though given only a 20 percent chance of survival on admission, he was discharged after only 71 days.

Scarring is the most visible consequence of severe burns, but the Yale team's approach helps reduce scarring by adding dermis which provides flexibility and durability to skin. It is the lack of dermis which results in the lumpy scars and contractions which commonly afflict recovered burn victims. The addition of dermis not only gives the injured flesh a more natural texture, but also makes it more resistant to injury.

Infection, the leading cause of death for burn victims, tends to set in during the weeks of recovery when skin grafts are being harvested to cover the patient's wounds. By using cryopreserved skin from a skin bank, surgeons are able to completely cover the wound site within days of the accident, effectively protecting the patient from infection and theoretically improving morbidity rates.

— Tom Urtz

Enzyme Understanding First Step in Aiding Heart Disease Patients

To design better drugs and improve a current drug used to treat patients with heart disorders, Yale researchers have been studying the structure and functions of a life-sustaining enzyme. The enzyme or protein, sodium potassium ATPase, affects the sensitivity and resistance in different organisms to digitalis, a drug used to treat heart disease patients.

"We think that by understanding aspects of structure/function organization, we can begin to think of better ways to design drugs to treat people with heart disease," said Dr. Robert Levenson, assistant professor of cell biology, the principal investigator of the study.

The enzyme is the cellular receptor of a family of compounds including digitalis, which stimulate the heart muscle. But, digitalis presents complications to some people, including nausea, vomiting, loss of appetite and abnormal heart activity.

"The dose that is therapeutic and the one that is toxic are not very different," said Dr. Levenson.

Information derived from an understanding of the enzyme's structure, such as pinpointing important sites for drug binding and drug interaction, could pave the way for a more effective drug treatment, according to Dr. Levenson. The researchers isolated the DNA sequence coding for the sodium potassium ATPase using recombinant DNA techniques.

Patients can get sick from digitalis, according to Dr. Levenson, because the drug is non-specific. It can affect the enzymes in many tissues and not only the enzyme in heart muscle.

"We could possibly design a better drug that would be safer, if we knew exactly where the drug bound and how it interacts with the protein," he said. "There may be something different about this enzyme in the heart that we can take advantage of, so that the drug designed will only or preferentially act with the heart form of the enzyme."

Finally, this enzyme, which helps to sustain life by regulating ion transport into and out of cells, may also prove important toward developing diagnostic tests for several genetic diseases, including hypertension, cystic fibrosis and muscular dystrophy. The defects leading to these

diseases may lie in the gene coding for systems which transport ions, said Dr. Levenson.

The ongoing research, which began two years ago, has been funded through grants totalling \$420,000 from the American Heart Association, the National Cancer Institute, the Cystic Fibrosis Foundation and the March of Dimes. Coinvestigators include Drs. Janet Emanuel, associate research scientist in cell biology and Dr. Edward J. Benz, associate professor of medicine and human genetics.

Anti-viral Drugs Tested in Army-funded Study

Numerous anti-viral drugs are being tested by Yale investigators who hope to develop those that could treat a wide range of virus-caused diseases, from yellow fever to AIDS. Approximately 500 drugs will be tested over the next five years during a \$1.5 million study funded by the U.S. Army.

"This study involves private industry, defense and academia working together to develop specific anti-viral drugs," said Dr. Gregory H. Tignor, associate professor of epidemiology, the study's principal investigator. "It gives us access to hundreds of anti-viral drugs that would otherwise go untested."

Each drug is first evaluated in tissue culture to determine its worthiness for further study, according to Dr. Tignor. Researchers test for toxicity before further testing to determine an estimate of the drug's potential efficacy in humans.

If an important anti-viral drug is pinpointed, Dr. Tignor and his coinvestigators would collaborate with the drug's manufacturers in completing the necessary preliminary tests leading to preliminary trials in humans and ultimate governmental approval for marketing the drug.

Coinvestigators in the study include: Dr. Robert E. Shope, professor of epidemiology and director of the Yale Arbovirus Research Unit; Dr. Abigail Smith, associate professor of comparative medicine and epidemiology, and Dr. Thomas G. Burrage, associate research scientist and lecturer in epidemiology.

"We're looking for a drug that has a high safety index," said Dr. Shope. "It should have minimal toxicity and be effective at low concentrations."

The drugs will be evaluated primarily with the yellow fever virus. The Yale Arbovirus Research Unit has a long association with studies on yellow fever virus. A vaccine was developed 45 years ago at Yale by the late Max Theiler, who received the Nobel Prize for his work on the vaccine. Later, Dr. Theiler worked with Drs. Shope and Tignor.

Yale Surgeons Analyze Heart Valve Replacements

In studies to determine which valve type is better for heart valve replacement surgery, Yale surgeons have analyzed two main types of valves. After reviewing more than 1,100 biological and mechanical valves inserted in adults during an 11-year period, they have concluded that little direct evidence exists to strongly support one type of valve over another.

"All of the valves have problems, and the problems cancel each other out. If you look at failure rates, there is no clear advantage of one type over another," said Dr. Graeme L. Hammond, professor of surgery.

Basically, patients who received mechanical heart valves experienced a higher incidence of blood clotting, while those who were given biological, or pig heart, valves registered a higher incidence of valve failure, according to Dr. Hammond, who co-authored the study with Dr. Alexander S. Geha, professor of surgery, Dr. Gary S. Kopf, associate professor of surgery, and Dr. Sabet W. Hashim, assistant professor of surgery.

After assessing problems of biological and mechanical valves and addressing questions about which may be better, the researchers concluded that the final valve selection is relative. "As physicians and patients discuss risks and benefits of the respective valves before deciding which to use, they must take into account the individual's age, reliability to self-medicate, activity level and anticipated life expectancy," said Dr. Hammond.

In their study the research team analyzed 1,116 valves inserted in 1,012 adults, aged 18 to 88 from January 1974 through January 1985 at Yale-New Haven Hospital. Six-hundred-and-six biological valves were implanted in 533 patients, and 479 individuals received 510 mechanical valves. The Yale surgeons examined the valves for such complications as blood clotting, anticoagulation-related hemorrhage, valve susceptibility to infection, valve leaks, valve failure and the need for reoperation.

"There is no artificial valve that is as good as the normal God-given valve," Dr. Hammond said. Human heart valves are flexible, opening and closing easily as the human heart beats 40 million times a year. No man-made material similarly flexes as often without wearing out.

Biological valves and the three widely used mechanical valves that the Yale team evaluated eventually fail, Dr. Hammond noted. Complications generally begin to appear two or three years after valve replacement surgery.

The pig valves that surgeons sew into their patients, can't regenerate themselves like human valves do. In addition, calcium may build up in the porcine valves; fatty acids and cholesterol can infiltrate them.

"Our data showed that biological valves deteriorate more than mechanical valves," commented Dr. Hammond. A total of 11.4 percent of the patients with biological valves experienced valve failure, compared with 4.5 percent of those with mechanical valves. Torn leaflets and calcification caused most, or 69 of the 606, biological valve failures, with a sharp increase occurring six years after replacement surgery.

At the same time, patients who received mechanical valves experienced other complications which were equally serious. For example, clotting, leaflet jamming, tissue ingrowth and material degradation occurred in 26 of the 510 mechanical valves.

"We found that blood clots occurred in 2.3 percent of all the mechanical valves, compared with 0.7 percent in the biological valves," Dr. Hammond reported.

Heart valve disease is most common among adults who had rheumatic or scarlet fever as children. Work on refining replacement heart valves and in developing new ones to eliminate problems has been progressing since the early 1960s.

Foundation Gift Supports Clinical Scholarship

The Robert Wood Johnson Foundation has granted the School of Medicine \$1,017,000 to support the Foundation's clinical Scholars Program for three additional years. The gift was made as part of the school's \$125 million capital campaign.

Since its beginning in 1974, the Clinical Scholars Program at Yale has provided a fellowship period of training for postgraduate physicians working in clinical epidemiology, health care delivery or health policy. More than 40 American physicians and various foreign visitors have attended the program.

Dr. Alvan R. Feinstein, professor of medicine and epidemiology, and Dr. Ralph I. Horowitz, associate professor of medicine and epidemiology, are co-directors of the program. Four new scholars are selected each year from about 30 applicants. They study quantitative clinical epidemiology, attend seminars in health policy, delivery and the social sciences and conduct research projects during the two-year fellowship period.

OBITUARIES

Robert Reese Berneike, M.D.

Dr. Robert R. Berneike, associate clinical professor of surgery (urology), died at Yale-New Haven Hospital on March 15, 1986 following a lengthy illness.

Born in Cleveland, Ohio, on October 23, 1915, he received a bachelor's degree in 1937 and his medical degree in 1941 from Case Western Reserve University in Cleveland, where he was elected to AOA prior to graduation. Dr. Berneike received postdoctoral training in surgery and urology at the New Haven Hospital and was certified by the American Board of Urology in 1948. He served on the full-time faculty at Yale under Dr. Clyde Deming from 1946 to 1949. He then entered the private practice of urology which he maintained in New Haven from 1949 until 1983, when he retired.

He was very active in the clinical teaching program at Yale, as well as on the staff at both hospitals in New Haven. He served as president of the medical staff at Yale-New Haven Hospital in 1968-1969, president of the New Haven Medical Association in 1973-1974, and president of The New England Section of The American Urologic Association in 1974-1975. He was associate chief of the Section Urology at Yale-New Haven Hospital from 1946 to 1963 and was chief of chief of the Urologic Service at The Hospital of Saint Raphael from 1963 to 1980. He also was involved in many community activities and had been chairman of the Board of Education in Woodbridge from 1965 to 1971.

Gerald Klatskin, M.D.

Dr. Gerald Klatskin, an internationally known liver specialist who was the David Paige Smith Professor Emeritus of Medicine, died on Thursday, March 27 at his home in Hamden following a lengthy illness. He was 75.

He is survived by his wife, the former Ethelyn Elmer Henry, professor emeritus of psychology and pediatrics in the Yale Child Study Center; two daughters, Jane K. Herner of Santa Barbara, California, and Ann Klatskin of New Haven; a son, Robert of Los Angeles, California, and three grandchildren.

He was born May 14, 1910 in New York City, the son of Archy and Cecelia Golub Klatskin. He completed a bachelor's degree in 1929 at Cornell University, where he was elected a member of Phi Beta Kappa, and received his M.D. degree from Cornell Medical College in 1933, graduating first in his class. He took his internship and residency in medicine at New Haven Hospital between 1933 and 1935 and then went to Rochester, N.Y., where he was an intern in surgery and an associate resident in medicine at Strong Memorial Hospital from 1935-37. He was an instructor in medicine at the University of Rochester for a year before joining the Yale medical faculty in 1937.

His academic career at Yale was interrupted by World War II, and he served in the U.S. Army Medical Corps between 1942 and 1946, achieving the rank of lieutenant colonel.

When he returned to Yale in 1946, he was appointed assistant professor of medicine, a post he held for two years. He was then named associate professor of medicine in 1948 and professor in 1957. A year later, he became the David Paige Smith Professor of Medicine, and then professor emeritus in July 1978.

A member of numerous professional organizations, Dr. Klatskin helped found the American Association for the Study of Liver Diseases in 1948 and served as its president in 1957-1958. He served as a member of several National Institutes of Health committees, including the Gastrointestinal Nutrition and Liver Disease Training Committee between 1959 and 1964, and also as a consultant to the Surgeon-General's U.S. Army Medical Research and Development Command from 1965 to 1975.

In May 1983, the American Gastroenterological Association awarded Dr. Klatskin the Julius Friedenwald Medal, honoring him on the 50th anniversary of his distinguished medical career. Among his other honors, Dr. Klatskin was presented

the American College of Physicians' Mastership and Distinguished Teacher Awards in 1974 and 1979, respectively. He was a member of Alpha Omega Alpha, the national medical honor society, and Sigma Xi, the national scientific society. At Yale, he was the first recipient of the Francis Gilman Blake Award for outstanding medical student teaching in 1952.

Dr. Klatskin is best known for his contributions to the correlations between biochemical and biological abnormalities and the clinical features of the diseased liver. He was a pioneer in the development of liver biopsy techniques and their histological interpretation, techniques developed in 1947 that are still used today. He and his colleagues accumulated more than 50,000 microscopic slides and correlated clinical data from nearly 10,000 liver biopsy specimens.

His scholarship also encompassed the entire spectrum of clinical liver diseases, ranging from chronic hepatitis to alcoholic liver injury. Dr. Klatskin's scientific and scholarly accomplishments include the first demonstration that viral hepatitis and the Australian antigen are associated with chronic hepatitis.

He documented the beneficial effects of alcohol withdrawal on the natural history of alcoholic liver disease. He described the prognostic significance of acute liver cell injury in hepatitis, developed evidence for an association between the general anesthetic halothane and hepatitis, and identified the clinical significance of granuloma in liver biopsies. He also recognized that certain cancers present as a bile duct bifurcation tumor, the so-called Klatskin's tumor, and recognized the common association of fever with Laennec's cirrhosis.

Undoubtedly the greatest beneficiaries of Dr. Klatskin's skills were the 47 postdoctoral fellows who came to Yale to train with him during the years from 1951 to 1978. Of these, 34 hold positions in academic medicine, 19 are full professors, seven have become chairmen of departments and one is a dean.

A memorial service was held for Dr. Klatskin on June 6, in the Yale Medical Historical Library. Contributions in his memory may be made to the Yale Liver Study Unit, 333 Cedar Street, New Haven, CT 06510, or to the charity of one's choice.

Ira Vaughan Hiscock, M.P.H.

Dr. Ira V. Hiscock, for many years a leader in public health in the United States, died April 4, 1986, in Doylestown, Pennsylvania. Dr. Hiscock was a member of the faculty at Yale University from 1920 to 1960, retiring as Anna M. Lauder Professor of Public Health and chairman of the Department of Public Health.

Dr. Hiscock was born in Farmington, Maine in 1892. He received B.A. and M.A. degrees from Wesleyan University (Connecticut) and the M.P.H. degree from Yale University.

During his career, Dr. Hiscock conducted comprehensive health surveys throughout the United States and in American Samoa. For many years, he was chairman or secretary of expert panels of the World Health Organization in Geneva, Switzerland. On his retirement from Yale, he was awarded a Carnegie Visiting Professorship in Public Health at the University of Hawaii.

Dr. Hiscock's many honors and awards included an honorary Doctor of Science degree from Wesleyan University and an Honorary Doctor of Medicine from the Connecticut State Medical Society. The American Public Health Association presented him with the Sedgwick Memorial Medal in 1962. His other honors include the Public Service Award of the Connecticut Bar Association, the C.-E.A. Winslow Award of the Connecticut Public Health Association and the Lemuel Shattuck Award of the Massachusetts Public Health Association. Yale honored him in 1978 with the dedication of the Ira V. Hiscock Library in the Laboratory of Epidemiology and Public Health.

Dr. Hiscock served as president of the American Public Health Association, the National Health Council, the Association of Schools of Public Health and the National Society for the Prevention of Blindness. He was a veteran of both World Wars. In WW II, as a colonel, he was chief of Public Health, Civil Affairs Division, War Department and was awarded the Legion of Merit. He served 31 years, with eight years of active duty.

His published books include: *Community Health Organization*; *Public Health in Hawaii*; *District Health Administration*; and *Ways to Community Health Education*.

Dr. Hiscock is survived by his son, William McC. Hiscock, of Baltimore, Maryland; his daughter, Margaret H. Weatherly, of Mt. Laurel, New Jersey; seven grandchildren and one great-granddaughter.

The Ira V. Hiscock Memorial Scholarship Fund has been established in the Department of Epidemiology and Public Health. Gifts may be made to the fund, care of the Yale Public Health Alumnae Fund, P.O. Box 1890, New Haven, CT 06508.

Dr. Petersdorf, '52, to Head AAMC

As of September 1986, Robert Petersdorf, M.D., '52, who is vice-chancellor for health sciences and dean of the University of California, San Diego, School of Medicine, will be president and chief executive officer of the Association of American Medical Colleges in Washington, D.C. The AAMC, formed in 1876, represents 127 U.S. medical schools, more than 400 teaching hospitals, over 70 medical professional societies, and the U.S. medical students.

Dr. Petersdorf succeeds Dr. John A. Cooper, who is retiring from the position he has held since 1969. In commenting on the appointment, Dr. Cooper praised the selection of Dr. Petersdorf, calling him "a longtime friend who has an outstanding national reputation for strong and effective leadership in academic medicine."

"He is a distinguished scientist, a superb clinician, who is deeply interested in medical education and the nation's teaching hospitals," said Dr. Cooper. "Dr. Petersdorf is recognized as one of the outstanding investigators and clinicians in internal medicine and infectious diseases in the United States."

The newly appointed AAMC president has served with a wide variety of national organizations. As a member of the Accreditation Council for Graduate Medical Education, he has fought for high standards for the residency training programs in U.S. hospitals, a subject on which he has frequently written, and in 1977-78, he was chairman of the AAMC Assembly. He has served as president of the American



Dr. Petersdorf

College of Physicians, of the Association of American Physicians, of the Association of Professors of Medicine, and as chairman of the Board of Governors of the American Board of Internal Medicine. He is also a member of the Institute of Medicine of the National Academy of Sciences.

Of Dr. Petersdorf's appointment, Dr. Virginia Weldon, AAMC chairman and deputy vice chancellor for medical affairs at Washington University School of Medicine, said that "he assumes the leadership of the Association at a time of great uncertainty for the medical profession and for academic medical centers in particular. He brings to the association a depth of experience in medical education, biomedical research and patient care that makes him unique-

ly qualified for this role."

Dr. Richard Janeway, vice president for health affairs and executive dean of Bowman Gray School of Medicine and AAMC Presidential Search Committee chairman, commented, "The nation's medical school and teaching hospitals respect Dr. Petersdorf's record of accomplishment and his wide ranging experience and wisdom. He worked his way through the medical school academic ranks, having been chairman of the Department of Medicine at the University of Washington School of Medicine at Seattle, a spot he held with distinction for 15 years; serving as president of Brigham and Women's Hospital in Boston from 1979 to 1981 when he then assumed his present responsibilities at the University of California, San Diego," said Dr. Janeway.

"He is one of the few people in the country with outstanding qualifications in academics, medical college administration and hospital direction, thus touching the three major constituent parts of the association. This wide ranging experience equips Dr. Petersdorf well as he assumes the leadership of the association."

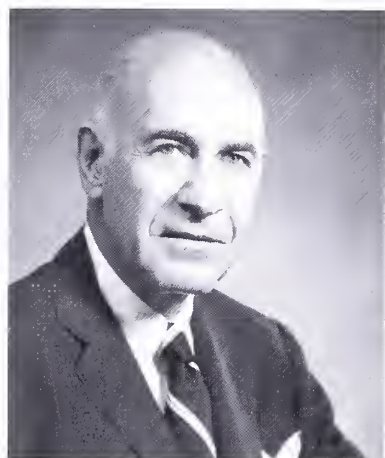
Dr. Petersdorf has been an editor of Harrison's *Principles of Internal Medicine* since 1968. He has published over 300 papers, his chief areas of interest having been the pathogenesis, epidemiology, diagnosis and treatment of bacterial infections, including urinary tract infections, meningitis, bacterial endocarditis and gram negative bacteremia, along with an in-depth study of fever.

DUKE - YALE Conference

Facing an Era of Upheaval: the Changing Environment of Medical Education and Medical Practice

More than 100 alumni from the Yale and Duke classes of 1948, 1949 and 1950 gathered in April to discuss the profound changes in medical care and education that have occurred during the last three decades. The three-day conference in Durham, North Carolina, brought together a diverse group of physicians, each with 30 to 35 years of practice, research, education and administrative experience.

"It allowed an interesting group of leaders in American medicine to assemble and provide one another with insights into some of the problems we face in academic institutions and in society," said Dr. Nicholas P.R. Spinelli, director of medical alumni affairs and associate clinical professor of medicine, who served on the planning committee for the conference.



Dr. Anlyan

The meeting, the first of its kind for the two institutions, was hosted by Dr. Leon E. Rosenberg, dean of the Yale School of Medicine, and by Dr. William G. Anlyan (Yale med '49), chancellor for health affairs at Duke. Topics ranged from the changing criteria for admission to medical school to a keynote address focusing on the impact of regulation, health main-

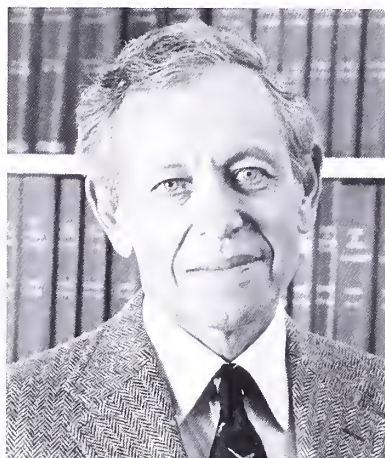
tenance organizations and the corporatization of medicine.

The goal, according to Dr. Spinelli, was to bring together classmates from a mid-20th century era, who now hold a variety of positions of authority and responsibility. Most of the alumni gathered were between the ages of 59 and 62 and will probably pursue their current activities for another five to ten years.

"Generally speaking, it was a means of exchanging information among people with the expertise to direct change in the future," said Dr. Spinelli.

In addition to Dr. Anlyan, Yale medical school alumni participating in the conference included: Drs. Robert G. Petersdorf, Paul Talalay, Lewis P. Rowland, Paul Goldstein, Albert Fisk, C. Arden Miller, William F. Collins, Jr., Sidney S. Lee, Ben Rush and Lyal Asay. Dr. Petersdorf delivered the keynote address.

In summing up the conference, Dr. Rosenberg noted the enormous opportunities which accompany the dramatic changes in medicine today.



Dr. Rosenberg

"It is time for a reaffirmation of the responsibility of physicians to serve the public, to care for people, and to place our clients' needs above our own self-interest," said the dean, who echoed several speakers' comments. "If we are going to recover the place that physicians once had in our society and that we believe it deserves, we must convey to our citizens the feeling that when we speak out, we are speaking out for them, not for ourselves."

CLASS NOTES

1943

A reception to celebrate **Rocko Fasanella's** career in ophthalmology was held at the New Haven Lawn Club on May 30. Dr. Fasanella noted that he was not retiring and that his future activities would include consultations, second opinions and office surgery. He also plans to do research on blepharospasm in hope of finding a more lasting cure and to conduct a re-evaluation of Dr. Leon Stone's classic studies on regeneration of the optic nerve.

1944

Fulfilling a dream to return to the United States and to the Yale School of Medicine, **Nora Harnden Mason** of Cumbria, England, did return during the week of November 23rd, 1985. Nora came to Yale during World War II and the blitz, when many students in England were transferred to American schools.

For her first visit back, she was hosted by her classmate, **Nick Spinelli**, who is now director of Alumni Affairs. Nora was accompanied by her son, Dr. Robert Mason, who is on the junior faculty of Guy's Hospital in London in the Department of Surgery, where he is active in research involving gastric and pancreatic carcinoma. Robert had visited New Haven ten years ago as a medical student.

Three exciting days in New York followed, where, beyond revisiting the conventional tourist haunts, visits to the United Nations and the Metropolitan Opera were much enjoyed. They were also guests of **Edith Jurka**. The group then spent three days at the Yale-New Haven Medical Center where **Barbara Kinder** ('71), associate professor of surgery, provided Robert and Nora with inside views of surgery at Yale at the present time. **Paul Molumphy** and his wife Ann, assisted in revealing the "new"



Dr. Mason

New Haven to Nora, who found both the city and the medical school entirely changed.

The Masons left for Boston, where for one week, Robert was the guest of Dr. Rob Skillman, of Massachusetts General Hospital, whom he assisted in gastrointestinal surgery. Nora sends her best wishes to all of her classmates whom she regretted not seeing.

1945

Raymond Gagliardi of Pontiac, Michigan was elected president-elect of the American Roentgen Ray Society at its 86th annual meeting in Washington, D.C. in April. He has served as the ARRS secretary since 1980 and is an active member of the American College of Radiology and the Radiological Society of North America. Dr. Gagliardi is chief radiologist at St. Joseph Mercy Hospital in Pontiac and associate professor of clinical radiology at Wayne State University School of Medicine.

The Medical College of Wisconsin presented its distinguished service award to **Frederic Blodgett** for his contributions to the development of rapid protoporphyrin quantitation, considered the most accurate method for detecting lead poisoning. In 1984, Dr. Blodgett, professor of pediatrics at WCM, received the Job Lewis Smith Award from the American Academy of Pediatrics in recognition of his outstanding services to children.

1946

Friends and colleagues honored **Gerald Shattuck** on May 1 on the occasion of his retirement from his pediatric practice in Portsmouth, New Hampshire. It was noted that "during his 35 years of practice, Dr. Shattuck exemplified the medical profession with his dedication and professional commitment to the health and welfare of our community."

1947

Franklin Epstein wrote in March: "As you know, I left Yale in 1972 to head up the Harvard Department of Medicine at Boston City Hospital and to become director of Harvard's Thorndike Memorial Laboratory at that institution. From 1973-1980, I directed Harvard's Department of Medicine at Beth Israel Hospital as the Herrman Blumgart Professor of Medicine. Since 1980, I have headed that institution's Division of Nephrology, as the William Applebaum Professor of Medicine."

In December 1985, Dr. Epstein received the John P. Peters Award of the American Society of Nephrology for "distinguished contributions to the mechanisms of disease." The award was presented to him by **Thomas Ferris** ('56).

In addition, Dr. Epstein is an associate editor of the *New England Journal of*

Medicine. "I have just been named president of the Mount Desert Island Biological Laboratory in Salisbury Cove, Maine," he wrote, "where many Yale people have visited and worked."

1949

In a recent letter to class agent Dan Elliott, **George Anderson** wrote that he is "fully retired after 30 years' of active military service (five years WW II and 25 years USAF), also 11 years with the Texas Department of Health. Lots of travel and activity in such a career — the medals and war stories are only the up-front part of a life of hard work, dedication and early retirement. At 53, I started a new and second career in public health." He says that his oldest son has followed in his footsteps: University of Michigan School of Medicine, Tulane School of Public Health, USAF training in aerospace medicine. He is now in the Surgeon General's office in Washington, D.C., a colonel with 19 years of active service. Dr. Anderson sends his regards to all.

Dan Elliott has been named president elect of the Central Surgical Association, an organization whose members are surgeons from 16 eastern and midwestern states and four Canadian provinces. He will take office as president in 1987.

Dr. Elliott has served as professor and chairman of surgery at Wright State University School of Medicine since 1976 and also serves on the active medical staffs of Kettering Memorial Hospital and Miami Valley Hospital in Dayton. In addition to being on the courtesy staffs of six other hospitals in Dayton, he is a consultant to the Dayton Veterans Administration Medical Center and the USAF Medical Center at Wright-Patterson Air Force Base. He lives in Kettering, Ohio.

Lawrence Shulman has been appointed acting director of the new National Institute of Arthritis and Musculoskeletal and Skin Diseases at the National Institutes of Health in Bethesda, Maryland. This institute has recently been established under provisions of the Health Research Extension Act of 1985. Dr. Shulman joined the staff of the NIH in 1976; he previously was on the faculty of The Johns Hopkins University School of Medicine, where he served as director of the Connective Tissue Division in the Department of Medicine.

1950

Lloyd Felmy has provided some additional information about faculty-student teas (*Yale Medicine*, winter 1986 issue). "I enjoyed reading your article on 'Faculty-Student Teas' very much. Brought back memories: both pre- and post- WWII. I was originally a member of the Class of

'44. However, I dropped out of school to enter the Navy; and returned after the war to graduate with the Class of '50.

"When I came back to school in 1946, I found that the teas had been discontinued. Having made the contacts previously, I got in touch with Mrs. Gardner and a few of the faculty wives and discussed the restarting of the afternoon teas. To finance the teas, the Class of '50 also re-established the Aesculapian Frolics; same having paid the expenses of the teas before the war. We continued the Frolics during our tenure at the school. Sorry you missed those facts when writing your article. Anyway, just thought you'd like to know."

1966

Reynold Spector, who is a professor of internal medicine and pharmacology at the University of Iowa, has been appointed the director of the General Clinical Research Center at that institution. Dr. Spector joined the Iowa faculty in 1968. In 1983-84, he was visiting professor of biochemistry at Stanford University where he worked in molecular biology. He is a member of numerous scientific societies, including the American Society for Clinical Investigation and the Association of American Physicians.

1973

As of March 1, **David Coulter** is associate professor of pediatrics and neurology and director of pediatric neurology at Boston University School of Medicine. He is also director of pediatric neurology at Boston City Hospital. "I came to Boston from the University of Texas Medical Branch at Galveston, where I was associate professor of neurology and pediatrics. I am primarily interested in epilepsy and mental retardation, and as of June 1, will be president of the American Academy of Mental Retardation. At Boston University, I will be establishing and directing the pediatric epilepsy program to provide services to children with epilepsy and their families.

"My wife, Mary C. Cetteto, Ph.D., is executive director of the Accreditation Council for Services to Mentally Retarded and Developmentally Disabled Persons. The Council's executive offices are also moving to Boston, bringing a national perspective on quality assurance in MR/DD programs to the New England area. Mary and I will be living in an old Victorian house in Natick."

1983

Tufts University's Alumni Association, presented its distinguished service citation for faculty excellence to **Theoharis C. Theoharides**. He is assistant professor of biochemistry, pharmacology and clinical pharmacology, and director of medical pharmacology at Tufts.

Elizabeth Nolan, now working in the Emergency Department at Coronado Hospital in Coronado, California, returned to Yale for a visit in April. In addition to her medical activities in California, she is writing fiction and children's stories.

Abby Van Voorhees and **Jeffrey Chodakewitz** ('81), were married on April 20 in Woodbridge, Connecticut. Both are at Yale; Dr. Van Voorhees is a resident in dermatology, and Dr. Chodakewitz is a fellow in infectious diseases.

PUBLIC HEALTH 1983

William Sabella has recently been appointed AIDS Education Coordinator for the State of Connecticut.

Dr. Beeson's Chief Residents Hold Reunion



Dr. Thomas Ferris, class of '56 and house staff '63, sent the above photo with the following information: "I am enclosing a picture of the reunion of Paul Beeson's Chief Residents, held in Washington at the time of the clinical meetings. Seated from left to right: **Phil Bondy**, chief of staff, West Haven VAH and professor of medicine, Yale; **Larry Freedman**, professor of medicine, UCLA and chief of medicine at Wadsworth VA Hospital; **Paul Beeson**; **Bob Petersdorf**, vice chancellor of medicine, University of California, San Diego and president-elect of the AAMC; **Gerry Burrow**, professor and chairman of medicine, University of Toronto.

"Standing: **Tom Amatruda**, director of medicine, Waterbury Hospital; **Sylvester Ryan**, staff physician, St. Mary's Hospital, Waterbury; **Eli Schimmel**, professor of medicine, Boston University School of Medicine and chief of medicine, Boston VA Hospital; **Ken Johnson**, staff physician, Benedictine Hospital, Kingston, N.Y.; **Jim Nolan**, professor and chairman of medicine, State University of New York, Buffalo; **Dick Kahler**, staff cardiologist, Scripps Clinic, La Jolla, CA.; **Tom Ferris**, professor and chairman of medicine, University of Minnesota; **Herb Lubs**, professor of genetics, University of Miami Medical School; **Hal Conn**, professor of medicine, Yale.

"I think this picture will bring back memories to many former students and housestaff at Yale. It was a memorable occasion for those of us present."

HOUSE STAFF 1962

At a ceremony in May at the Cathedral of the Sacred Heart in Newark, New Jersey, **Dr. Leon G. Smith** received papal honors and was inducted as a Knight of St. Gregory in the Order of St. Gregory the Great. Pope Gregory XVI instituted the award to honor his subjects for their loyalty, piety and virtue in defending the Holy See. Director of medicine and chief of infectious diseases at St. Michael's Medical Center in Newark, Dr. Smith is co-founder with his wife, Margaret, of Queen of Angels Family Health Service, a voluntary organization that gives medical aid to indigent residents of Newark.

IN MEMORIAM

Louis M. Shapiro, M.D. November 6, 1985	'21 ex med
Ira V. Hiscock April 3, 1986	'21 M.P.H.
F. Erwin Tracy, April 26, 1985	'29 M.D.
A. Philip La France April 18, 1985	'31 M.D.
Ival A. Merchant December 16, 1985	'34 M.P.H.
Graham C. Newbury December 22, 1985	'35 M.D.
Prof. William W. Walcott February 23, 1986	'38 ex med
John A. Murtagh, M.D. January 15, 1986	'38 H.S.
Roderick Macdonald, M.D. July 27, 1985	'42 H.S.
Ashley Pond III March 17, 1986	'33 M.D.
Robert Lee Taylor November 13, 1985	'43 M.D.
Robert R. Berneike, M.D. March 15, 1986	'46 H.S.
John P. Dowling September 29, 1985	'56 M.P.H.
Hugo Saenz Noguerol, M.D. March 29, 1986	'59 M.P.H.
Bernhard H. Lisker April 8, 1986	'75 M.D.

CAMPAIGN UPDATE

In May, 1985 The Campaign for the Yale School of Medicine was formally launched. At that time, \$32 million in gifts and pledges had been raised toward the \$125 million campaign goal. School officials are exceptionally pleased to announce that the campaign total now stands at more than \$84 million — a \$52 million increase in the past year (see progress report summary). This progress is encouraging, but the task that remains is formidable. Only 23 percent of the endowment goal of \$59 million has been achieved, and an even smaller percentage of the funds needed for the renovation of laboratories is in hand. During the coming year, campaign volunteers will focus more of their efforts upon contacting medical alumni and parents for major gifts to the campaign.

Kingsley Fellowship Endowment Announced

The Francis G. Kingsley Memorial Fellowship Fund has been established in the School of Medicine to honor a longtime friend of the school. The fellowship is the result of gifts from family and friends of Mr. Kingsley, including \$500,000 each from Milliken and Company, and Mercantile Stores Company. At the time of his death in January, Mr. Kingsley was an officer and director of each company.

A graduate of Syracuse University and the London School of Economics, Mr. Kingsley was first employed by Mercantile in 1932, and became president of the department store chain two years later. In 1941, he joined Milliken and Company, textile manufacturers, and was named chairman of Mercantile. In addition to these major corporate duties, he served as financial advisor to the Manhattan Project, which was responsible for the design and assembly of the first atomic bomb.

His special interest in the school began when his daughter, Ora Kingsley Smith, M.D. '53, enrolled in the School of

Medicine. She is an associate fellow of the John B. Pierce Foundation, an affiliate of Yale University.

The Kingsley Fellowship will be awarded to young investigators at Yale whose research shows great promise. Awards will be for one to three years, and are not restricted to a specific department or discipline.

Dean Leon E. Rosenberg, who will be responsible for the final selection of Kingsley Fellows, stressed the Fellowship's potential to advance medical knowledge. "Since most funding is based on a physician's record of achievement, junior faculty members rarely have adequate support for their own research. Often, the most talented young scientists are relegated to an assistant's role in projects directed by more senior faculty members. This is unfortunate, because it delays the pursuit of personal research interests at a time when the outstanding young physician is especially energetic, creative and enthusiastic. The Kingsley Fellowship addresses this problem head-on."



The late Francis G. Kingsley

Tax Reform and the Campaign for the Yale School of Medicine

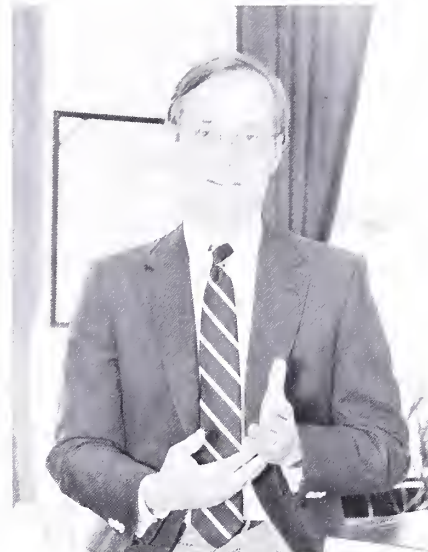
The U.S. Senate's passage of a tax-reform bill is intended to reduce the tax rates for most Americans, while eliminating many deductions. Both House and Senate versions of the bill preserve the deduction for charitable contributions but, if enacted, the bill should create additional incentives to make charitable gifts before December 31, 1986. This is because the reduction in tax rates increases the after-tax costs of making gifts.

For example, a \$10,000 donor in the 50 percent bracket has an after-tax cost of \$5,000 for that gift (\$10,000 minus \$5,000 credit for deduction). If that donor's tax bracket is reduced to 30 percent, a likely compromise between the two bills, the after tax cost of the same gift rises to \$7,000 (\$10,000 minus \$3,000 credit for deduction).

The Campaign for the School of Medicine is a five-year effort because it will take that long to reach all alumni and friends in a personal and effective way. If you wish to give to the campaign this year due to tax considerations and have not yet been contacted, please write or call the Office of Medical Development for more information.



Frank A. Sprole, Y.C. '42, of New York has been named co-chairman of The Campaign for the Yale School of Medicine Volunteer Committee. Mr. Sprole, who is also chairman of Special Gifts for the 45th Reunion of the Class of '42, has recently retired as vice-chairman of the board of Bristol-Myers company, where he spent most of his professional career. He currently serves as a director of The Bristol-Myers Fund, Inc.



As the School of Medicine moves to expand its fund-raising capabilities, a new addition to the Office of Development staff is Will Melton. A graduate of the University of Virginia, Mr. Melton comes to Yale from Northfield Mount Hermon School, where he served as development director for six years and had oversight of that school's successful \$10 million capital campaign.

His duties will include organizing the solicitation of medical alumni for the Campaign for the Yale School of Medicine, and making alumni more aware of creative ways to help the school through life income trusts and gifts of real estate or other highly appreciated property.

The Office of Medical Development solicits gifts and grants for endowment, facilities and non-governmental research funds for the School of Medicine. The Medical School Alumni Fund, a separate entity, conducts the annual giving program to provide funds for student aid. The address of the Office of Medical Development is: 350 Congress Avenue, 3C, New Haven, CT 06519; telephone (203) 785-4420.

PROGRESS REPORT SUMMARY

As of May 31, 1986

	Received	Outstanding Pledges	Total
Building	\$ 5,874,812	\$ 24,476,007	\$ 30,350,819
Endowment	\$ 6,789,109	\$ 7,358,376	\$ 14,147,485
Equipment	\$ 616,963	\$ 0	\$ 616,963
Loan Funds	\$ 479,793	\$ 0	\$ 479,793
Research	\$ 23,433,155	\$ 13,456,298	\$ 36,889,453
Various	\$ 1,024,320	\$ 0	\$ 1,024,320
Operations	\$ 706,062	\$ 0	\$ 706,062
TOTAL	\$ 38,924,214	\$ 45,290,681	\$ 84,214,895

SOURCES	Received	Outstanding Pledges	Total
Corporations	\$ 7,379,523	\$ 5,669,192	\$ 13,048,715
Foundations	\$ 13,723,051	\$ 8,392,951	\$ 22,116,002
Individuals	\$ 9,343,655	\$ 13,900,945	\$ 23,244,600
Other	\$ 8,477,985	\$ 17,327,593	\$ 25,805,578
TOTAL	\$38,924,214	\$ 45,290,681	\$ 84,214,895

CLASS OF 1986 Residency Positions

CALIFORNIA

Harbor-UCLA Medical Center, Torrance

Cynthia Dyess, *Surgery*

Joe Kurosui, *Transitional*

Stanford University Hospital

Richard Gates, *General Surgery*

UCLA Neuropsychiatric Institute, Los Angeles

Kimberli McCallum, *Psychiatry*

University of California Hospitals, San Francisco

Sophie Cole, *Internal Medicine*

Gerard Doherty, *General Surgery*

Liangge Hsu, *Medicine*

Bruce Jacobson, *Surgery*

David Kaku, *Internal Medicine*

Clinton Lindo, *Internal Medicine*

Mary Nakamura, *Internal Medicine*

Louise Sanematsu, *Pediatrics*

Chris Takimoto, *Internal Medicine*

University of California San Diego Affiliated Hospitals

Daniel Fierer, *Internal Medicine*

COLORADO

University of Colorado Affiliated Hospitals, Denver

Gail Mizner, *Medicine*

Ilena Norton, *Psychiatry*

Andrew Steele, *Internal Medicine*

CONNECTICUT

Danbury Hospital

Amanda Dill, *Internal Medicine*

Mount Sinai Hospital, Hartford

Dae Song, *Medicine*

St. Vincent's Medical Center, Bridgeport

Eric Bernstein, *Transitional*

Yale-New Haven Medical Center

Catharine Arnold, *Internal Medicine*

William Esterline, *General Surgery*

David Frank, *Internal Medicine*

James Goldenring, *General Surgery*

Cynthia Hall, *Obstetrics & Gynecology*

Jacqueline Hodge, *Pediatrics*

Stacey Mandelbaum, *Obstetrics*

& *Gynecology*

Timothy McGowen, *Orthopedic Surgery*

Lynne Perry, *Internal Medicine*

Steven Peterec, *Pediatrics*

Paula Rackoff, *Internal Medicine*

Donald Reich, *Psychiatry*

Ernesto Roederer, *Psychiatry*

Marcus Walker, *Psychiatry*

Julia Whiteside, *Medicine*

FLORIDA

Jackson Memorial Hospital, Miami

Richard Bridgewater, *General Surgery*

ILLINOIS

McGaw Medical Center-

Northwestern University, Chicago

Richard Lewis, *Medicine*

Benjamin Li, *General Surgery*

MAINE

Maine Medical Center, Portland

Barbara Harvey, *Internal Medicine*

Lawrence Sampson, *General Surgery*

MARYLAND

Francis Scott Key Medical Center, Baltimore

Robert Study, *Internal Medicine*

Johns Hopkins Hospital, Baltimore

Raymond Chung, *Internal Medicine*

Mary Greene, *Pediatrics*

University of Maryland Hospital, Baltimore

Young Kim, *Internal Medicine*

MASSACHUSETTS

Boston University Affiliated Hospitals, Boston

Danilo Castro, *General Surgery*

Brigham and Women's Hospital, Boston

Laird Madison, *Internal Medicine*

Matthew Moore, *Surgery*

Gregory Orloff, *Internal Medicine*

Kimberlee Sorem, *Obstetrics*

& *Gynecology*

Cambridge Hospital

Roberto Lewis-Fernandez, *Transitional*

Children's Hospital, Boston

Jonathan Alpert, *Pediatrics*

Stephen Roth, *Pediatrics*

Massachusetts General Hospital, Boston

Michael Grossbard, *Internal Medicine*

Thomas Lynch, *Internal Medicine*

Mount Auburn Hospital, Cambridge

George Sachs, *Medicine*

New England Deaconess Hospital, Boston

Samir Bhatt, *Surgery*

New England Medical Center Hospital, Boston

Dory Altmann, *Internal Medicine*

John Wysolmerski, *Internal Medicine*

MICHIGAN

University of Michigan Affiliated Hospital, Ann Arbor

Paul Wang, *Pediatrics*

MINNESOTA

University of Minnesota Hospitals, Minneapolis

Jeremy Holtzman, *Internal Medicine*

Robert Kinney, *Internal Medicine*

Brian Lombardo, *Family Practice*

Steven Waisbren, *General Surgery*

MISSOURI

Barnes Hospital, St. Louis

Gary Shapira, *Pathology*

NEW JERSEY

St. Barnabas Medical Center, Livingston

Betty Klein, *Transitional*

Maxine Spicer, *Obstetrics & Gynecology*

NEW YORK

Beth Israel Hospital, New York

Gary Hirshfield, *Medicine*

Columbia-Presbyterian Hospital, New York

Margaret Alexander, *Surgery*

Long Island Jewish Medical Center, New Hyde Park

Glenn Faust, *General Surgery*

Nassau Hospital, Mineola

Young Kang, *Medicine*

New York University Medical Center, New York

Paul DeRenzi, *Internal Medicine*

Mark Lipian, *Pediatrics*

Jeffrey Schneider, *Internal Medicine*

Roosevelt Hospital, New York

Michael Sherman, *General Surgery*

State University Of New York-

Kings County Hospital, Brooklyn

Alfred Harrington, *Pediatrics*

The New York Hospital, New York

W. Lee Bailey, *Internal Medicine*

Paul Chang, *Internal Medicine*

Andrew Costin, *Internal Medicine*

Manuel Litchman, *Internal Medicine*

University of Rochester Associated

Hospital Programs, Rochester

Miriam Tatum, *Pediatrics*

Wilson Hospital, Johnson City

Reginald Windom, *Transitional*

NORTH CAROLINA

Duke University Medical Center, Durham

Raymond Cuevo, *Internal Medicine*

Ronald Weigel, *General Surgery*

OREGON

Oregon Health Sciences University, Portland

Sean Jones, *Medicine*

Lisa Yee, *General Surgery*

PENNSYLVANIA

Abington Memorial Hospital, Abington

Bethanne Moore-Sanders, *Medicine*

Bryn Mawr Hospital

Eric Suan, *Medicine*

Hospital of the University of Pennsylvania, Philadelphia

Jeffrey Carpenter, *General Surgery*

Hospitals of the University Health Center of Pittsburgh

David Atkins, *Internal Medicine*

John Detre, *Internal Medicine*

Temple University Hospital, Philadelphia

Andrew Conn, *Internal Medicine*

RHODE ISLAND

Miriam Hospital, Providence

Andrea Stone, *Medicine*

Rhode Island Hospital, Providence

Antoinette Lloyd, *Internal Medicine*

TENNESSEE

Vanderbilt University Hospital, Nashville

Allen Ries, *Internal Medicine*

TEXAS

Baylor College of Medicine

Affiliated Hospitals, Houston

Duncan Fischer, *Surgery*

University of Texas Southwestern

Affiliated Hospitals, Dallas

Mahesh Shrestha, *Internal Medicine*

VERMONT

Medical Center Hospital of Vermont,

Burlington

Michael Miller, *General Surgery*

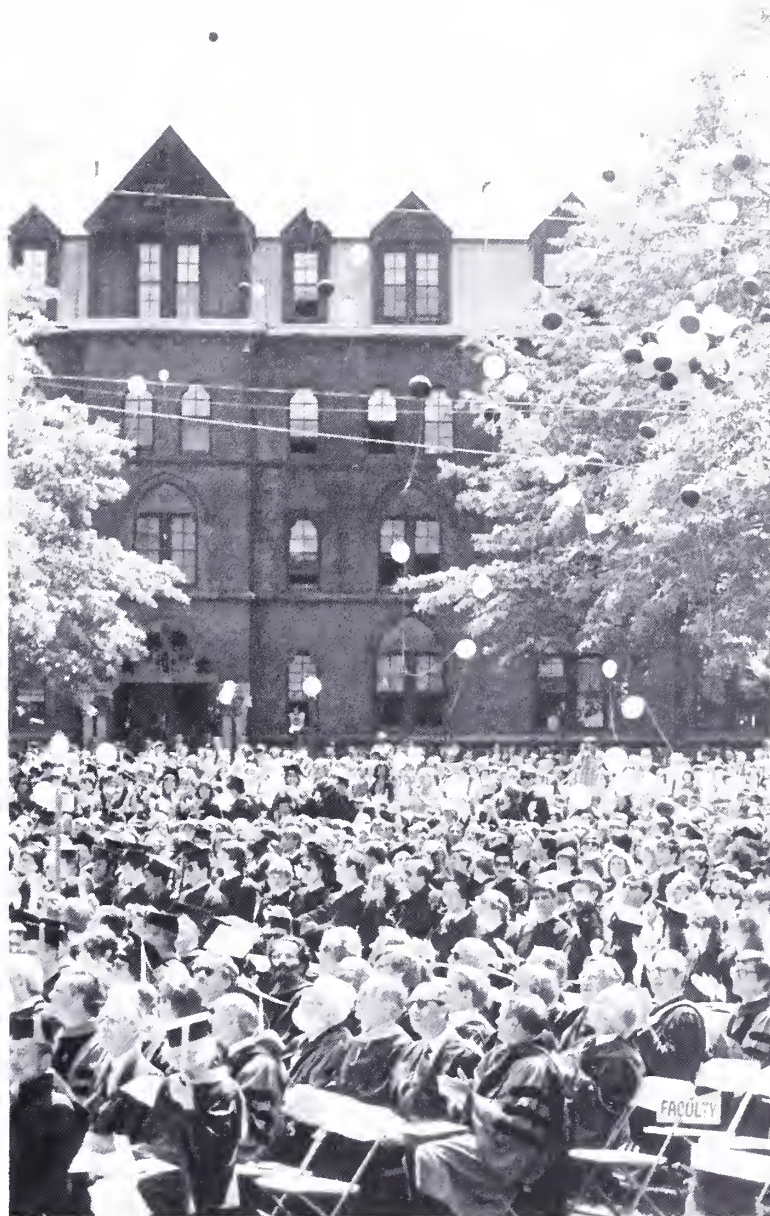
WASHINGTON

University of Washington

Affiliated Hospitals, Seattle

Richard Gibbs, *Family Practice*

Elizabeth Plotkin, *Medicine*



Yale University Commencement, 1986, on the Old Campus

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YALE MEDICINE

Alumni Bulletin of the School of Medicine

Fall 1986



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Communication may be addressed to the Office of Public Information, 350 Congress Ave., New Haven, Conn. 06510.

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COVER: Sterling Hall of Medicine Entrance
Photograph by Bill Carter

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R. Leonard Kemler, M.D. '43, *Chairman,*
Medical School Alumni Fund

YJB&M OBSERVES 60 YEARS OF PUBLICATION

What makes the Yale School of Medicine special? The Yale System? The thesis requirement? An outstanding study body working with a superior faculty?

All of these exceptional features characterize Yale, says Dr. Philip K. Bondy, associate dean for the Veterans Administration Medical Center. To them he adds another: *The Yale Journal of Biology and Medicine*.

Yale is the only American school that offers students an opportunity to edit and publish an internationally recognized journal of medical science, says Dr. Bondy, the Journal's editor-in-chief.

In 1987, the Journal will celebrate its 60th year of publication, and yet another group of first-year medical and graduate students will join the board of editors to be introduced to the medical publishing world.

Over the years, the Journal's contents have reflected the continuity of medical investigation. The first issue, which appeared in October 1928, included a paper by Dr. James D. Trask, professor of pediatrics, on "Comparative Immunology in Pediatrics."

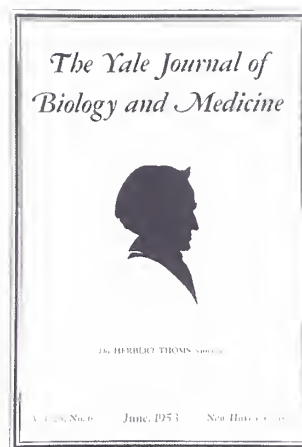
Sixty years later, the Journal will publish the American College of Epidemiology's tribute to Dr. Alfred S. Evans, the John Rodman Paul Professor of Epidemiology who also served as a Journal editor-in-chief. The issue will once again discuss recent advances in pediatric immunology.

In its first year of publication, the Journal presented papers on infectious diseases, embryology, nutritional deficiency diseases, community health, trauma, medical history and cancer. The material published today continues to cover the breadth of the past, although the level of sophistication has changed.

MANUSCRIPT REVIEW

The Journal's long life can be attributed, in part, to the continuing dedication of successive generations of Yale medical students and faculty, according to Dr. Bondy. The task of reviewing manuscripts and readying them for publication is handled by the editorial board of 30 student editors and nine faculty associate editors. Each December, eight to 14 apprentice student editors are chosen through a competition. At the end of the spring semester, if they have fulfilled the requirements of reviewing assigned manuscripts and submitting one or two written book reviews, most usually become full-fledged board members.

Although this seems simple enough, a strict adherence to deadlines and meeting attendance is required. According to Dr. Bondy, the selection process is unquestionably elitist, which is appropriate, because it recruits outstanding students. Proof of this is the unusually high proportion of prizes garnered by the Journal's student editors each year at commencement. In 1986, for example, 14 awards were presented to seven of the nine graduating members of the Journal board. Two weeks earlier, at student research day, three of these same students were awarded prizes from only five presented.



The Yale Journal of Biology & Medicine

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The Yale Journal of Biology & Medicine

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JANUARY/FEBRUARY 1987

The Yale Journal of Biology and Medicine

Through the years, Yale Journal readers have seen graphic design changes. Early volumes featured a silhouette of Dr. Nathan Smith, professor of the theory and practice of physic, surgery and obstetrics when the Medical Institution of Yale College opened in 1813. Recent covers use different typographical elements to present the scholarly articles and book reviews.

What advantage does a student on the editorial board have besides seeing his or her name on the masthead six times a year? Although the majority of the student editors are candidates for the medical degree, some are enrolled in the combined M.D.-Ph.D. program and others are working toward the Ph.D. in epidemiology or one of the basic sciences. They quickly learn to sharpen their critical skills as they evaluate submitted manuscripts.

Every paper is reviewed jointly by a student editor and a faculty member recommended by the entire board. This can be one of the faculty associate editors, but more often than not it is someone selected from the medical school at large. It occasionally becomes necessary for the faculty reviewer to temper the tone of the student's review, although most of the time they

agree. This close collaboration between the student and faculty expert is one of the major benefits of editorial board membership. It often results in a newfound friendship.

After the student editor and faculty reviewer have met and thoroughly evaluated each manuscript, the student presents his or her findings to the board, which meets twice a month over lunch in the Beaumont Room. After the presentation, the papers are openly discussed, and the entire board decides whether or not to publish the article. Although this first such session can be a traumatic experience for the neophyte reviewer, it soon becomes second nature.

Approximately four years ago, the board of editors formed an executive committee. This began as the brainchild of student editors Mariano Garcia-Blanco and Duncan Fischer, and now it meets a few times a year to discuss and resolve Journal affairs and editorial problems. Three students meet with the managing editor and three faculty editors, and through this experience all learn about publishing stages—from author to reviewer to copy editor to press to final product. They also get a taste of marketing, promotion and sales. Thus, the *Yale Journal of Biology and Medicine*, in addition to teaching the students good scientific writing and editing skills, acquaints them with the business side of journal publishing.

Currently, the Journal's board of editors includes these students: Craig Basson, Jennifer F. Bock, Jonathan A. Borden, Maureen E. Brady, Robert K. Brown, David Chelmow, Chieh-Min Fan, James M. Ford, Louis Glazer, Subba Rao Gollamudi, Laurence A. Greenbaum, Andrew Griffith, Stephen B. Gruber, Sunil Hingorani, Paul A. Khavari, Marc Levesque, Peggy M. Liao, Lewis Lipsey, Elan D. Louis, Michael Mockovak, John W. Mott, Sina Nasri-Chenijani, Kenneth E. Newhouse, Lisa Ragen, Tarik M. Ramahi, Henry Rice, Seth Rosenthal, Sally Wade, Greg M. Yarrington and Hedayatollah Zaghi.

Dr. Emile L. Boulpaep, professor and chairman of the Department of Physiology, is deputy editor-in-chief. Other faculty members who serve as associate editors are: Robert S. Baltimore, Priscilla S. Dannies, Stephen C. Edberg, James F. Jekel, G.J. Walker Smith, John T. Stitt and Arthur J. Visel tear.

Suzanne Lande is the publisher/managing editor; Rose Jacobowitz is copy/production editor.

TOPICS

During the past eight years, the Journal has concentrated on publishing proceedings of international symposia. Some of the more recent topics covered are schizophrenia, Lyme disease, mycoplasma and pediatric critical care.

For the first time in its history, the Journal, in co-operation with the Section of Rheumatology, co-sponsored "The First International Symposium on Lyme Disease." Two of the student editors were among the five guest co-editors of the resulting July-August 1984 issue, which subsequently was republished in hardback and is still selling briskly. In 1983, the Journal published "Current Insights in Mycoplasma," which resulted in a tome of more than 600 pages—an entire year's pages in one issue. Other symposium issues have been redone in book form and sold worldwide.

For years, the Journal has celebrated the careers of notable Yale medical faculty with *festschrift* issues in their honor. Dr. Bondy says. Recent issues include tributes to Drs. Dorothy Horstmann, Elisha Atkins, Aaron Lerner and the late Gerald Klatskin. In preparation for spring 1987 is a symposium issue to honor Dr. Gilbert H. Glaser.

All of these activities have kept the Journal active and healthy. In recognizing its contributions to Yale medical educa-

tion, Dr. Robert H. Gifford, associate dean for medical education and student affairs, has agreed to consider membership on the Journal's editorial board as an elective in the medical school curriculum.

The Journal welcomes this formal recognition of excellence and the high caliber of its contribution to a Yale medical education. It accepts the additional responsibilities associated with becoming a recognized element of the course of study, Dr. Bondy says. "We have every confidence that the basic nature of this unique Yale enterprise will not wilt under the academic burden. It will continue to be a collegial and congenial group. Its special nature will survive."

But the proof of any publication is in the reading. The Journal's success is reflected in its widely distributed readership, mostly to medical libraries scattered throughout 40 countries on six continents. Libraries in 13 Third World countries subscribe, as well as seven in the Eastern Block, including the People's Republic of China, the USSR and Czechoslovakia. The Yale medical word reaches the entire globe.

The Journal welcomes additional support from Yale medical alumni and invites individual subscriptions. Thus, future generations of Yale medical students will be able to benefit from the special medical publishing opportunities the Journal offers the Yale community.

STUDENT EDITORS LAUD JOURNAL EXPERIENCES

My student editor experience precipitated valuable interactions with some of Yale's preeminent medical scholars. More often than not, what started as a meeting to discuss a manuscript with an esteemed professor developed into a valuable dialogue on topics sometimes scientific, sometimes philosophical and sometimes just interesting.

Harris Pastides, Ph.D. '80
Epidemiology and Public Health

Seeing my own work in print, in the form of published book reviews, and seeing the impact of my work in revised manuscripts was a source of enormous pride to me. The experience of critically analyzing research design and presentation formed an emerging desire to pursue a career in research and academics....My memories, then, are grateful ones—among the unique educational opportunities offered at Yale, the Journal is one of the best!

Kathleen A. Nolan, M.D. '82

Working on the Journal allowed meaningful contact with clinical and research faculty in diverse disciplines. My involvement with symposia and serving on the executive committee provided some problem-solving challenges that were unlike most of my medical school responsibilities.

Robert W. Arnold, M.D. '84

Not only was my experience as a student editor one of my most rewarding experiences as a medical student, in terms of learning scientific material and interacting with very knowledgeable faculty members, but it was also a considerable amount of fun.

Duncan K. Fischer, M.D., Ph.D. '86

THE YALE SYSTEM

THE EARLY YEARS

by Arthur J. Viseltear, Ph.D.

"Time dissipates into shining ether the solid angularity of facts".

Ralph Waldo Emerson, 1841

The Yale System—or plan, or philosophy, or program—is most closely associated with Milton Winternitz, dean of the school from 1920 to 1935. Winternitz's portrait is displayed next to the dean's office. I invite you to see it, for it was Winternitz and his predecessor, George Blumer, who began the process that brought Yale to the front rank of medical schools in the United States.

Many changes have occurred at Yale since the School of Medicine opened in 1813 as the Medical Institution of Yale College. Throughout the 19th century, distinguished faculty taught here and much was accomplished, but money was scarce, and the single building housing the school was "uninspired and obsolete."

In the 19th and early 20th centuries, medical education was primarily lectures and demonstrations. Medical schools, with rare exceptions, were only steps above grammar schools. By the early 20th century not much had changed, except that entrance requirements at Yale were stiffened to include at least two years in college and not just a high school or preparatory school diploma.

Blumer and Winternitz looked at the state of affairs—as had Lewellys Barker at Hopkins, William Pepper at Pennsylvania, Charles Eliot at Harvard and James Angell Sr. at Michigan—and said it was all wrong. Medical schools, including Yale, needed more science, fewer didactic lectures, better students, additional laboratories and more money.

Abraham Flexner studied early Yale in 1909 and concluded that its medical school was at a crossroad. To bring the medical school into the front rank of schools, he wrote, Yale needed endowment, closer ties to a hospital, additional basic science and clinical laboratories and a full-time faculty. Thanks to George Blumer, the support of Yale's president and corporation, and gifts from the Rockefeller Foundation and private donors, Yale achieved these goals; but, although standing at the threshold, something else was needed, and that something else had to do with the curriculum.

PEDAGOGIC EXPERIMENTS

Winternitz thought about a modern Yale and initiated discussions that led to "pedagogic experiments"—experiments that ultimately formed the basis of the Yale Plan—each designed to

Dr. Viseltear, associate professor of the history of medicine and public health, presented this report to the Medical School Council on Oct. 2. "The Yale Plan of Medical Education: The Early Years" will appear in its entirety in the November-December 1986 issue of the Yale Journal of Biology and Medicine.

give Yale's medical school "personality," "individuality," something that would make medical educators sit up and "take notice."

The basic and clinical sciences had advanced in the late 19th and early 20th centuries with great speed, and the temptation was for professors to continue to add to their courses without discarding older parts and without periodically reorganizing each course to correspond to the new developments in each science.

Professor F.P. Underhill, chairman of Yale's Curriculum Committee, reported in 1922 that the student had become "the defenseless recipient of an overwhelming mass of facts which he may or may not be able to correlate." Regarding professors, Underhill wrote, "In their enthusiasm for teaching [their own subjects] there is the decided tendency [for each professor] to over-teach—to expect the students to become in turn a finished anatomist, physiologist or pathologist."

Underhill believed that a curriculum so arranged discouraged initiative and independence and filled the students with required work, leaving no free time for electives, independent research, reading in the library or contemplation. Winternitz accepted Underhill's conclusions and, in the early 1920s, recommended that the number of course hours be reduced by more than 1,200 hours—one full year. Electives were substituted for required courses, a change that Winternitz believed would "permit students to exercise their individuality," to pace themselves and to try things out.

A second pedagogic experiment, the M.D. thesis, in existence at Yale since the mid-19th century, was reaffirmed. With more time available, more opportunities for basic and clinical science, Winternitz reasoned that there would be a "premium on research" and, with proper faculty supervision, student theses would become truly valuable educational experiences.

A third principle of the plan was a belief that the Yale medical school should be a graduate school and that students need not be "spoon-fed." The memorization of "a mass of facts," said Yale System advocates, was far less important than a well-rounded education in fundamental principles, training in methods of investigation, and above all, the acquisition of the scientific habit of mind, all of which could be achieved if the medical school were a graduate school.

Students would no longer be regimented, but instead would attend lectures, enroll in electives, prepare their M.D. theses, and when ready, sit for two comprehensive examinations. As students were to advance at their own paces, it mattered not to the faculty if students took their qualifying examinations after one year or after three years. All that mattered was that students, treated now as adults, would make their own decisions.

The examinations, designed and administered by a Yale committee of basic scientists and clinicians, were comprehensive and difficult, having been based on examinations for membership in the Royal College of Physicians and the tripos given at Oxford and Cambridge. Indeed, it was even recommended that examiners be selected from schools other than Yale, to assure that the examinations would be truly extramural.

The comprehensive examinations were given three or four times during the year and were in four parts: short and long an-

swer questions, an essay (which lasted only a year as it proved too difficult for the faculty to grade), a practical (substituted for the essay) and an oral. The examinations introduced in 1927 and evaluated in 1929 revealed that, of the 160 students sitting for the exams in this two-year period, 120 (or 75 percent) had passed and 40 failed. Of the 40 failing, 10 passed the second time around and 12 flunked out. Seventeen took the exam yet a third time, but the Board of Permanent Officers' records are fuzzy regarding the fates of these students.

CONTROVERSY

The Yale System was studied and restudied in the early years. Special committees of the faculty looked at the plan throughout the 1930s and in the years during and immediately following World War II. There was much discussion, similar in many ways to the discussions that took place in 1985-86. As may well be expected, some believed in the plan, others wished to modify it, and another group regarded it with disdain or indifference.

Samuel Harvey, chairman of Yale's Department of Surgery for almost two decades, strongly supported the plan. In a 1941 paper, Harvey presented his ideas on medical education in general and the Yale Plan in particular. Harvey believed that the important qualities for student physicians were integrity, intelligence, capacity for work, and judgment and skill in using the scientific method, none of which, he believed, could be taught in lectures.

Give students examinations in courses and check attendance, and you defeat the purposes of graduate education, he said. Students learned on their own; they learned in the lab; they learned from each other; they learned in small groups. Students also learned by being led to the literature, which they would absorb themselves. This was a better idea than having it "eructated by the teacher whose ruminative assistance [would] not be available for them in [their] future life."

"Medical education," Harvey concluded, "was a continuing process of growth..., a sensitive process, for the most part autocatalytic, which responded most favorably to a proper environment," an environment that Harvey and like-minded colleagues believed should be based on small group teaching and independent research, the absence of course examinations ("which discouraged the proper type of study"), an emphasis on electives, and the close relationship of students with faculty who possessed uncommon capacity for initiating and sustaining first-rate work.

The Yale System also had opponents. The common, recurring complaint was that the system was faculty intensive. Small group teaching and the M.D. thesis were considered valuable, but took faculty away from their own research. The comprehensive examinations also were considered inappropriate. Winternitz wanted the examinations to be written by Yale faculty from both the basic science and the clinical departments, but agreed to accept the external National Board Examinations in 1932 when his faculty complained that preparing and administering the internal exam was difficult and intruded into their primary responsibilities for teaching, service and research.

Five years later, after the faculty found that almost all (99.4 percent) of the students sitting for the external National Board Examination had passed, they voted to restore to the faculty the responsibility for preparing internal exams. If there were a comprehensive exam, they argued, Yale should be responsible for evaluating its own students. This policy remained in effect until 1942, when, owing to the exigencies of World War II, the exams of the National Board were once again substituted for Yale's comprehensives.

Other faculty evaluators reviewed the original objectives of

the exam and concluded that both the Yale and National Board exams were less than optimum. Both tested only discrete subjects and cognate disciplines and, as such, did not permit students to "correlate their knowledge"; nor were the exams designed to be "integrative," as they were intended, serving the important purpose of revealing to students "the essential unity" or synergy of basic science courses with each other and with the clinical years.

Equally distressing was the fate of those students who did not pass Yale's comprehensive exam. Did Yale have a continuing responsibility for such students? Some said "yes"; others said "no."

REAFFIRMATION OF PLAN

Despite the ambiguous conclusions of the evaluation committees and the occasional faculty polarization regarding the comprehensive exams, each element comprising the Yale System—small-group teaching, electives, comprehensive examinations prepared and administered either by a committee composed of Yale faculty or by the National Board, the absence of individual course examinations, the M.D. thesis, the spirit of a graduate school, the acceptance of the principle that Yale medical students were adults—remained intact, was institutionalized, legitimized, and in the early years, reaffirmed by both the faculty and Winternitz's successors, Stanhope Bayne-Jones, Francis Gilman Blake and C.N.H. Long.

The basic elements of the Yale Plan did not change in the early years because the social contract between faculty and students had not changed. As originally set forth in the Curriculum Committee report of 1928:

"Fundamental to [the Yale Plan] is the concept that the medical student is a mature individual, is strongly motivated to learn and requires guidance and stimulation rather than compulsion or competition for relative standing in his group. Equally basic is the concept that if [students are] given unusual privileges [they] must assume more than usual responsibility for [their] education."

And, as Francis Gilman Blake wrote in 1941, the principal element in the Yale Plan was:

"the too often overlooked fact that [medical students are adults] already embarked upon [their] own life's work and the obvious corollary that [students] must learn both to pilot [their] own boat and assure to a large extent the responsibility for acquiring that content of knowledge which is necessary for [them] in charting [their] future professional course."

I submit that it is this social contract—which, in the early years, was and remains now in part responsible for Yale's essential character—that is the ethos of the Yale Plan.

As we review our past traditions and legacies in the light of present needs and concerns, it is important to remember that the Yale System, which has evolved for more than 60 years, been modified and fine-tuned but never abandoned, remains the distinguishing feature of Yale medicine.

Pedagogic experiments, faculty and administrators, curricula revisions, courses, departments, sections and institutes have come and gone; but the Yale System remains the essential element in the mix of ingredients that has made the Yale School of Medicine the truly exceptional institution it has been these many years.

CURRICULUM CHANGES. DURING THE LAST THREE DECADES

by Arthur Ebbert Jr., M.D.

In 1952 and 1953, the Yale plan of medical education underwent a comprehensive review and reappraisal. This was precipitated by three concurrent phenomena: the appointment of a new dean in 1952, the growth of the faculty and some skepticism toward the plan by faculty who had been recruited from other schools.

Although the new dean, Dr. Vernon Lippard, had received his M.D. from Yale in 1929 and was a strong supporter of the plan, the November 1952 minutes of the school's executive committee, composed of the department chairmen, noted, "It was the consensus of opinion that there exists a real need for clarification of what is meant by the Yale Plan and what are its underlying principles."

The following March, a Curriculum Committee was appointed "to define the Yale system of medical education and make recommendations for such changes in this system as seemed to be in order." The executive committee also recommended studying the place of the National Board Examinations in the Yale System.

CURRICULUM REPORT

The report of the Curriculum Committee was presented to the school's Board of Permanent Officers in May 1953. I would like to quote from the introductory paragraphs of that report.

"The purpose of this statement is to reaffirm the confidence of the faculty of the School of Medicine in the methods of instruction which, over the past 30 years, have become known as the 'Yale System' and to define the program so that faculty and students may begin the next academic year with a common understanding of its objectives and procedures and with freedom from confusion arising from misinterpretation. After a periodic review, minor revisions of current practices have been adopted and it is expected that, with further experience, other revisions will be recommended but the basic philosophy underlying the program is believed to be sound.

"The program is distinguished by the following characteristics: (1) the required thesis, (2) lack of fixed course requirements for qualified students, (3) emphasis on elective courses, (4) absence of required course examinations."

The report goes on to discuss these characteristics of the Yale System. In the section describing evaluation, the report notes that during pre-clinical years, examinations were to be offered but were neither required nor graded for record. At the end of each basic course, the department concerned was to submit a composite narrative opinion of the student's achievement, summarized as "satisfactory" or "unsatisfactory." Progress committees were to be appointed to evaluate the achievement of students in each year and certify to the dean's office that students were eligible to take the National Board Examinations.

Dr. Ebbert, deputy dean, presented this report to the Medical School Council on Oct. 2.

According to this report, the committees were expected to reach their decisions by using all information at their disposal and were privileged to give special examinations when necessary. Completion of the National Board Examinations was required for advancement from the pre-clinical to clinical years and for graduation; however, responsibility for a student's advancement rested in the progress committees and, finally, in the Board of Permanent Officers.

Dean Lippard published an article entitled "The Yale Plan of Medical Education After 30 Years" in the *Journal of Medical Education* in September 1954. I recommend this to those who want more detailed information about the plan as it existed at that time. I would like to note that, in the article, Dean Lippard made the following statement: "No educational program worth its salt ever has or ever will be in final form. To be effective, it must be subjected to constant evaluation and improvement."

To my knowledge there was very little change in the program of medical education over the next 10 or 12 years. The Curriculum Committee, concerned primarily with scheduling problems resulting from expanding knowledge, strove to protect elective time and to improve elective courses. The question of whether or not the school should continue to require the National Board Examinations recurred periodically.

THE NEW CURRICULUM

In February 1965, appointing the Committee to Re-evaluate the Goals of Medical Education and their Implementation at Yale, Dean Lippard commented: "The traditional curriculum of American medical schools, adopted 60 years ago, was designed to prepare physicians to enter practice on graduation. Although methods of instruction and course content have changed, the courses offered and the time allotted to them have remained relatively constant, despite the ever-increasing mass of knowledge, the variety of careers open to medical school graduates, the extension of postdoctoral educational experience, and the changing role of medicine in society."

This committee, chaired by Dr. Byron Waksman, labored for more than a year. In April 1966, its recommendations were approved by the school's Board of Permanent Officers. Although these recommendations established what subsequently became known as "the new curriculum," they did not change the basic principles or characteristics of the Yale Plan.

Among the recommendations was that an Office of Associate Dean for Curriculum be established to provide, for the first time, an administrative mechanism for the year-to-year supervision of the curriculum by an officer of the school. Dr. Howard Levitin was appointed to that post in the fall of 1966. The Curriculum Committee worked hard for two years to develop the new curriculum for the class entering in September 1968.

Time does not permit a detailed description of the new curriculum; however, the key features were as follows:

1. Some reduction in the initial time devoted to the study of basic sciences, with considerable reduction in time for the gross anatomy course.
2. Early introduction of the students to clinical medicine, requiring that students spend six weeks of the first summer in a clinical setting.
3. The opportunity to study advanced basic science following clinical clerkships.
4. A flexible program during the last one-and-one-half years, allowing students to plan their own curricula in consultation with their advisers. This became known as the multiple track system. Each available track was to include graduate level science courses, appropriate

clinical experience, and courses correlating clinical medicine and fundamental science. The tracks were "biology in medicine," "behavioral medicine," "community medicine" and "growth and development." Each third-year student was expected to select one of these tracks.

5. An extended outpatient clinic experience.

REAPPRAISAL

The introduction of the new curriculum and the increase in class size to 102 in 1971 put added strain on the evaluation system. Because most faculty did not have enough protracted contact with students to evaluate their progress, the Medical School Council appointed a committee to look at the pre-clinical courses and the evaluation of students.

The report of this group was adopted by the council in the spring of 1973. The major recommendation of that committee, chaired by Dr. Michael Kashgarian, was that each pre-clinical course would be required to offer students three evaluation options, including an oral or written examination; a report on the student's performance in conferences, seminars or laboratory exercises; and the presentation of papers. However, no grades as such were to be recorded.

About this same time, in 1973, the Medical School Council directed the Curriculum Committee to redesign the pre-clinical curriculum with changes in content, sequence and time allocation. Two major changes became effective in the fall of 1975. The summer clinical experience following the first year was made optional instead of required, and the multiple track system in the last three semesters was eliminated. Thus, in 1975 the curriculum returned to the general format that existed prior to the introduction of the so-called new curriculum in 1968; however, the clinical correlation lectures and tutorials in the first year were retained.

Two additional changes dealing with evaluation should be mentioned. Beginning with the class entering in September 1977, students were required, in addition to receiving a passing total score on the Part I National Board Examination, to receive passing grades in each of the component subjects of the examination. In December 1977, the Curriculum Committee recommended mandatory anonymous course examinations in the pre-clinical courses. Before this was implemented, though, the word "mandatory" was deleted and replaced with a statement indicating that students were expected to participate.

To this brief summary of events, I would like to add a comment about the accreditation of the school in 1983. Accreditation is the responsibility of a group called the Liaison Committee on Medical Education (LCME), which represents the American Medical Association (AMA) Council on Medical Education and the Association of American Medical Colleges (AAMC).

Although the school received a highly complimentary report and was accredited for the maximum period of 10 years, the visiting survey team expressed concern regarding curriculum and evaluation. The report states: "The Curriculum Committee appears to be more occupied with minor adjustments to the operation of the academic programs and less with fundamental educational philosophy and its implementation," and "Aside from student performance on the National Boards, the existing evaluation system is unconventional and evidence of its effectiveness is largely anecdotal."

EVALUATION OF STUDENTS

by Robert H. Gifford, M.D.

The Yale System has been an important part of life at Yale University School of Medicine since 1931. Although it has undergone minor modifications in the intervening years, its essential spirit has remained intact and it is a major reason why students elect to come to New Haven for their medical education. Interestingly, no firm agreement exists on how to evaluate students under the Yale System.

Although the system uses neither letter grades nor class rankings, the faculty always has attempted to recognize excellence and, conversely, to identify students in academic difficulty so they can receive special help. When students apply to residency programs, letters to hospitals must indicate each candidate's specific strengths. Obviously, not all students can make superb laboratory investigators nor can everyone become a skillful neurosurgeon. However, all students must prove to the faculty that they have attained minimal proficiency in each required course or clerkship.

The evaluation of performance and the proof of minimal proficiency require two very different scales of measurement that are frequently blurred in students' minds. Thus, the question is not whether there will be evaluations or whether there will be minimal proficiency hurdles to overcome, but rather how will these be done and how will they be kept separate from each other.

In the past year, the Curriculum Committees and Medical School Council have considered changes in the traditional method of determining minimum competence. Some of the reasons behind the changes are as follows:

1. To provide an alternative to the National Board Examination, which will discontinue providing individual subject scores after 1988. Yale will need a new method of ensuring that students have learned the basic principles of each course before moving into the clinical years.
2. To provide a means for students in academic difficulty to become aware of their deficiencies during the course in question, rather than after the second year has been completed and students already have started their clinical training.
3. To encourage more students to participate in and take advantage of course offerings as they are given, rather than leaving the bulk of study to the weeks before the National Board Examination.
4. To stimulate the development of a well-established and easily accessible system of remedial help for students who might want it.
5. To provide the faculty with a better yardstick of its teaching.
6. To dissociate the evaluation of performance from the evaluation of minimum competence.
7. To preserve the spirit of the "Yale System" of medical education.

During the past year, students, faculty and administrators in the School of Medicine reviewed the student evaluation system. Earlier this fall, Yale Medicine asked Dr. Gifford, associate dean for medical education and student affairs, to comment on the Yale System. His article complements the preceding historical presentations to the Medical School Council.

PERFORMANCE AND PROFICIENCY

The methods used to evaluate performance have not changed. The faculty of each required basic science course and each required clinical clerkship must submit a descriptive evaluation of every student to the associate dean for medical education and student affairs. No letter grades are assigned, although relative terms such as "outstanding," "excellent" or "very good" may be used occasionally. No attempt is made to establish a grading "curve" or to rank the class in any order.

In the basic sciences, students are given evaluation options at the beginning of each course. Although most evaluations result from students' participation in seminars, labs and tutorials, alternative methods include a special written or oral examination or presentation of a paper or other project. In their evaluations, the basic science faculty generally comment on participation, level of knowledge, preparation and quality of a paper presented.

The clinical faculty generally base their comments on daily observations of each student's clinical and interpersonal skills, knowledge base, problem-solving ability and adherence to assigned responsibilities.

The students have access to their evaluations at any time. One copy of each is retained by the department, second copies go in students' permanent records, and third copies are available for students to keep.

Each basic science department that teaches a major course must offer all students one written, minimum competency, anonymous examination. Although all students have been expected to participate anonymously in these exams, only about 60 percent actually have done so. Following extensive discussions during the past academic year, the Medical School Council approved a resolution that all students must take an anonymous minimum competency examination in each course, beginning with the class entering in September 1986.

The concept of minimum competency implies that all students should be able to pass an examination on fundamental facts and principles of each discipline taught.

Although current teaching should not necessarily change to dwell on these facts and principles, the faculty will be responsible for informing students in advance of the areas considered important for medical students to know particularly well. The anonymous minimum competency examination should test only these areas. The examination should be written in such a way that each student who has participated in the coursework should be able to pass with a score of at least 6590.

There should be one required anonymous minimum competency examination per course. However, course directors are encouraged to offer their customary examinations throughout the course. Students will be expected to take these examinations as well, but with no requirement to pass or to identify themselves in any way. The regular examinations will merely serve as guides to the students as to their overall competence in each discipline. However, students wishing to choose an examination for evaluation and students who must take a course for graded credit (for example, M.D./Ph.D. students) could use the regular examinations for credit.

REMEDIATION

Students who fail the minimum competence section of the examination are on their honor to contact the director of medical studies (DMS) in the appropriate department, to receive additional help. Each of these students must eventually show the

DMS that the deficiency has been corrected either by taking another minimum proficiency exam or by some other method agreed upon by the DMS and student (e.g. oral exam, extended conversations during study).

The deficiency must be corrected before clinical rotations begin. Students who fail the make-up examinations must identify themselves to the associate dean for medical education and student affairs for counseling. Failure a third time will lead to a review by the progress committee to determine appropriate dispositions.

Under this new system, students still will be required to take Part I of the National Board Examination but will be required to pass only the overall test. Several weeks of review are allotted following the fourth semester for preparation and study for the boards.

All departments will provide easily accessible tutorial programs for any students who wish extra help, special tutoring, or re-testing. An individual in each department whom students can easily approach will fulfill this function. Students will have access to practical examinations and computer programs for review and self-teaching. A special computer room and learning center for students is being developed adjacent to the teaching laboratories in Lauder Hall and should be in place during the coming academic year. This tutorial system will be developed in more detail.

COMMENCEMENT 1986— PROFESSIONAL RESPONSIBILITY

by Samuel O. Thier, M.D.

I want to add my congratulations to the graduating class and to talk about what's ahead as medicine moves into an almost unprecedented period of change. When you move into a rapidly changing system, it becomes important to have guiding principles clearly in mind so that pressing financial and organizational changes won't distort what you've been taught.

As you leave Yale, you will learn as I did in the last few months, that the name Yale stays with you, and it means quite a bit. You carry with you 300 years of credibility, excellence and the responsibility to continue that tradition.

As you move into the medical profession, you also inherit millennia of tradition. It has been exciting most of the time, resulting in a remarkable social contract of which you are now part. You will have a lifetime of learning ahead. You will have the opportunity to share with people their times of crisis, to guide them, to heal them and perhaps to prevent their illness. You will have their trust and respect and you will have security. To maintain that contract you have to meet your professional responsibilities.

I would like to talk with you about professional responsibilities, to put some of them in perspective and to discuss how the traditions of medicine and of Yale ultimately may come together. Justice Louis Brandeis provided most of my definition of a profession: a profession is the keeper of a body of knowledge learned more from experience than memory. It is responsible for maintaining and advancing that knowledge and passing it on to the next generation. It has a code of ethics with a significant component of service to others. It sets and enforces its own standards, and it values performance above reward. I'd like to examine where your profession is today as you become full members.



J.D. LEVINE

Dr. Samuel O. Thier served as chairman of Yale's Department of Internal Medicine for 11 years before becoming president of the Institute of Medicine in January.

KNOWLEDGE

What about knowledge? We have the greatest knowledge base applied to the practice of medicine in the history of mankind, and the practice of medicine has been more firmly based on scientific principles.

What about passing that knowledge on to the next generation? As students look to you as house officers, it will be a little scary but fun. We don't do a bad job at medical education. For the last hundred years, we have operated with a simple set of principles. Our educational process is founded on the connection between basic sciences and clinical medicine. It rejected apprenticeship for the more rigorous bedside teaching of the clinical clerkship. It is based on problem solving, not memory.

In the next few years, many suggestions will be made to change our educational principles because the way medicine is practiced is changing. But those simple principles have taken us from general practice in horse-and-buggy times through the development of hospitals to academic medical centers, HMOs and other providers. The principles have served us well. We may require some reorganization, but the principles are firm. Don't allow them to be abandoned lightly.

Reading about medical education from the Journal of the American Medical Association: "The most common criticism made at present by older practitioners is that young graduates have been taught a great deal about the mechanism of disease but very little about the practice of medicine, or to put it more bluntly, they are too scientific and do not know how to take care of patients. When one considers the amazing progress of science and its relation to medicine during the last 30 years, and the enormous mass of scientific material which must be made available to the modern physician, it is not surprising that the schools have tended to concern themselves more and more with this phase of the educational problem."

The article continues to talk about the art of medicine, concluding, "The art of medicine and the science of medicine are not antagonistic but supplementary to each other."

That was written in 1927 by Francis Peabody. Things have not changed as much as we sometimes like to think. Do keep your perspective. The criticism of medicine that I just presented should always exist. When you do not hear that criticism anymore, then medicine has ceased to advance.

If you are not better educated in the science of medicine than I was when I graduated, we have not advanced, and the educational system has not functioned. If I, after 30 years of experience caring for patients, have not learned something more about how to interact with patients, then I have been something of a stone during that time.

Dr. Shimon Glick notes that the words "patient" and "compassion" have a common root. Don't forget that root. It's hard to construct a common root with client or consumer. You're still taking care of patients.

What about advancing knowledge? We have done spectacularly well in advancing knowledge in what is, probably, the most exciting time in the history of medical science. People have told you all your lives that the way in which medicine advances is to have a basic observation applied through clinical research and eventually have it translated into clinical practice. It almost never happens that way. In fact, it has been very much the opposite.

People at the bedside have always asked questions and sought answers: ultimately explaining empiric observations on the basis of science. Trying to explain sickle cell anemia led to our understanding of the tertiary structure of proteins and trying to sort out thalassemia led to an understanding of advances in molecular genetics. It was not virology and immunology that taught us about immunization, but immunization that made us understand what virology and immunology had to contribute. Do not forget the importance of trained clinical observation. It leads to very important questions, and it is an inseparable partner in the science of medicine.

As we move to gene therapy and new areas of medically assisted conception, for example, we will introduce therapies that will have predictable and unpredictable effects. The rate at which these new technologies and approaches are introduced is occurring rapidly, we desperately need people who can make the observations that will provide the insights into biology that unexpected clinical events offer. We must also examine the legal and ethical foundations of our new technologies because the public will require careful and understandable answers to the complex questions that are going to be raised.

This brings me to the question of ethics. Does medicine have a code of ethics, and is it committed to a component of service to others? It has, but it could do a lot better in expressing it.

The original code of ethics that guided medicine was a code of interaction between physicians. It didn't get to where we should be today: our primary responsibility and commitment to our patients overriding virtually everything else we do. This simple ethical principle becomes critical to keep in mind because it is threatened dramatically as we are asked to restrict access to care and to new technology.

RESPONSIBILITIES

You have two responsibilities. Remember George Bernard Shaw's *Doctor's Dilemma* when thinking about them. Shaw didn't think highly of physicians. He wrote of a physician who was in love with the wife of a man with a treatable disease. That physician was faced with the challenge of whether to treat the patient and lose this woman he coveted, or whether to not treat the patient, let him die and potentially have the woman as his wife. As you might guess, Shaw allows the physician to allow the patient to die; the woman runs off with somebody else, so there is some equity in the system, but there is a conflict of interest in the system.

Remember that you may be asked to take on a conflict of interest that other professionals are not. No sane lawyer would be advocate and judge in the same case. You cannot simultaneously be advocate for your patient and the judge of the patient's right to scarce resources. When patients come to you, they have every right to expect that you will be their advocate, care for them and defend them. When you are separate from patients, you may deal, as an informed professional, with decisions based on cost-benefit analysis of various technologies or treatments. But you must never allow yourselves to be forced to do both simultaneously, or you will find yourself in an untenable position.

You may face restricted resources for medical care, just when we have the greatest opportunity for care. It will require some balancing of values that will go beyond consideration of resources and require you to put idealism above pragmatism in certain circumstances. And remember, as Dr. Rosenberg said, that this is an idealistic profession and that you should not feel uncomfortable for putting your idealism ahead of pragmatism in the care of your patients.

What about the other requirements for being a profession? Do we set and enforce our standards? Yes, we do. We set fairly high standards. We may not always police our own profession the way I hope we would, and I'm particularly sad that we don't always comfort our own professionals when they're impaired as well as we should. In the future, more openness will be important in setting and enforcing standards. With some compassion in the system, enforcement becomes more humane.

We must avoid allowing our standards to become those of a trade. We must avoid allowing those who structure the organization of medicine to tell us what physicians should be trained to do and what standards they should meet. Physicians may have to meet standards of those organizations, but they must meet the profession's standards first. We ought to be willing to press for higher standards and mechanisms of reevaluation so that patients will know whether you are as good 10 to 20 years from now as when you started in practice.

PERFORMANCE

What about valuing performance above reward? The greatest criticism is now leveled at that area of the medical profession, and I think not unfairly. The question is, do we perform only if we're reimbursed? We have a long tradition that says we care for those who need it, regardless of the ability to pay. In the last 20 years, through well-intended mechanisms of insurance, Medicare and Medicaid, we have provided coverage for patients, but we also have allowed a generation of physicians to grow up thinking that they didn't have a responsibility to care for those patients for whom there was no reimbursement. That is a very dangerous position for our profession.

For example, should a colonoscopy, reimbursed at \$500, be done when one that is reimbursed at \$100 and is equally medically indicated is not? Is that what we're actually saying? Do we really think that technical skills are so important that we value them more than we value cognitive skills or principles? If we mean that, then we ought to say that. We ought to say if reimbursement is reduced, patients will not be served. Then we have to answer "Who will not serve?" If the answer is "the medical profession," then we have forfeited our professional social contract.

As you go forward, then you will find a lot of rhetoric, self-interest and difficulty in defining when one is dealing with principle or self-interest. Your professional responsibility is to argue from any vantage point you wish, but to be honest in identifying the motives from which you're operating.

As a group from Yale, you should be responsible for introducing light and truth to the argument. I am confident that this class of students, with the value systems that I have seen over the years at this institution, with the qualities of excellence, can meet these challenges. If you do, the change should be an enormous opportunity to set right those things we haven't quite gotten right and to protect those things we have.

Let me wish you again the very best of luck, and congratulations again.

HERE AND ABOUT

Dr. Stephen Waxman to Head Neurology

Dr. Stephen G. Waxman, professor and associate chairman of the Stanford University School of Medicine Department of Neurology, became chairman of the School of Medicine's Department of Neurology and chief of neurology at Yale-New Haven Hospital on July 15.

Dr. Waxman succeeds Dr. Gilbert H. Glaser, who relinquished the medical school chairmanship he held for 34 years.

"At Stanford, Stephen Waxman has conducted elegant research on nerve cell growth aimed, ultimately, at advancing the treatment of neurological diseases such as multiple sclerosis, spinal cord injury and stroke," said Dr. Leon E. Rosenberg, Dean. "We are delighted that, while continuing his outstanding work in New Haven, he will lead our educational, research and patient care programs in the critical discipline of neurology."

Dr. Waxman, who is internationally known for his research on regeneration of nerve cells and adaptive response of the nervous system to illness and injury, led a Stanford research group that delineated the molecular changes of the nerve fiber during clinical remissions of multiple sclerosis.

A native of Newark, N.J., Dr. Waxman received an A.B. degree cum laude in 1967 from Harvard College and Ph.D. and M.D. degrees in 1970 and 1972, respectively, from Albert Einstein College of Medicine in New York City. He completed his residency training in neurology at Boston City Hospital and was a visiting research fellow at Massachusetts Institute of Technology.



Dr. Stephen G. Waxman

In 1978, Dr. Waxman joined the Stanford medical school faculty as professor and concurrently served as chief of the neurological unit at the Palo Alto Veterans Administration Medical Center. In 1981, he was named associate chairman of the department.

Dr. Waxman, who has co-authored more than 165 scientific articles based on his research, is associate editor of the *Journal of Neurological Sciences* and the *Journal of Neurocytology*. He also serves on the editorial boards of five other journals and as a reviewer for more than 10 other publications.

The National Institute for Advanced Education in the Sciences presented him the First Annual Trygve Tuve Memorial Award for Outstanding Contributions in the Biomedical Sciences in 1973. Two years later, he received a research career development award from the National Institute of Neurological and Communicative Disorders and Stroke.

Merle Waxman to Head Women in Medicine

Merle Waxman, who previously served as assistant ombudsman at Stanford University Medical Center, has been named director of the Office for Women in Medicine. She succeeds Kay D. Codish.

In announcing the appointment, Dr. Leon E. Rosenberg, Dean, said "Merle Waxman possesses outstanding leadership and communication skills which will enable her to carry out the office's diverse responsibilities. Ms. Waxman's experience in non-litigious conflict resolution and advocacy will be of great value to our women students and faculty members who are concerned with affirmative action, recruitment, advancement and counseling."

At Yale, Ms. Waxman will direct the office established in 1975 to advance the



Merle Waxman

professional standing and personal lives of women in medicine and the biomedical sciences. The office provides advisory and advocacy services and helps women counter prejudice, discrimination and sex-role stereotyping.

Ms. Waxman also will serve as a liaison with the University administration and as an advocate for local and national women's medical issues.

A native of Newark, N.J., Ms. Waxman received a B.S. degree in 1968 from Boston University and an M.A. degree in 1972 from the City University of New York. Her professional experiences range from working as a research assistant in neurology to serving as a speech consultant and therapist.

Between 1983 and August 1986, Ms. Waxman was assistant ombudsman at Stanford University Medical Center where she specialized in conflict resolution and formulated policies and procedures to facilitate non-litigious dispute resolution.

Dr. Gary Friedlaender to Lead New Department of Orthopaedics and Rehabilitation

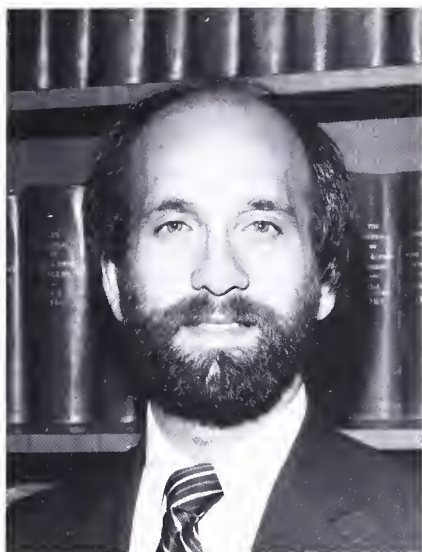
The Yale School of Medicine and Yale-New Haven Hospital have established a new Department of Orthopaedics and Rehabilitation, and Dr. Gary E. Friedlaender has been named the first chairman of the school's department and chief of the hospital's service.

Dr. Friedlaender, a member of the School of Medicine faculty and an attending surgeon at Y-NHH since 1976, will expand the existing orthopaedics program that previously was a section within the Department of Surgery.

The new Department of Orthopaedics and Rehabilitation combines surgical and medical approaches to disorders of the musculoskeletal system, along with a program in rehabilitation, as reflected in the department's name. The opportunities and challenges presented by the scope of activities will be met by sections of clinical orthopaedics, rehabilitation and research. The full-time faculty includes eight clinicians with interest and nationally recognized expertise in the spine, joint reconstruction, trauma, arthritis, pediatrics, oncology, bone transplantation and complex surgery of the hand and foot. The department also includes five basic scientists highly respected for their continuing contributions to the biology, biochemistry, immunology and biomechanics of the skeleton.

Dr. Friedlaender looks forward to adding and expanding expertise in sports medicine and rehabilitation and more fully utilizing the teaching and clinical skills of the 40-50 members of the community-based orthopaedic faculty. Five residents are ac-

SAMMY CARR



Dr. Gary E. Friedlaender

cepted annually in the four-year residency training program.

"In establishing the new department, the School of Medicine is making a greater institutional commitment to enhancing the teaching, research and patient care pertaining to the musculoskeletal system," said Dr. Leon E. Rosenberg. "Gary Friedlaender's fine research on bone transplantation and his superb leadership will significantly advance orthopaedics at Yale."

A native of Detroit, Mich., Dr. Friedlaender received a B.S. degree with distinction from the University of Michigan in 1967 and an M.D. degree from Michigan's School of Medicine in 1969. He was an intern and surgical assistant resident at the University of Michigan Medical Center and completed his orthopaedic residency training at Newington Children's Hospital and Y-NHH in 1974.

Dr. Friedlaender first came to Yale in 1971 as a National Institutes of Health post-doctoral research fellow in surgery, oncology and immunology, during which he developed his interests in bone transplantation.

In his clinical work and research, Dr. Friedlaender has specialized in oncology reconstruction. He has been particularly interested in limb-sparing tumor resection followed by skeleton repair using bone transplants, and has developed many aspects of this innovative surgery.

His contributions include assessment of the influence of chemotherapy and radiation therapy on intact bone, fracture repair and graft incorporation, an understanding of immune responses to bone transplants and methods for safely and efficiently banking bone. As part of this work, he founded and directs the Yale Bone Bank.

Dr. Friedlaender has served as president of the American Association of Tissue Banks and the American Council on Transplantation (ACT). He founded ACT, a centralized resource for information, education, program support and coordination of national activities pertaining to organ and

tissue donation and transplantation. He is a fellow of the American College of Surgeons and the American Academy of Orthopaedic Surgeons.

At Yale, Dr. Friedlaender has directed the orthopaedic oncology and transplantation immunobiology laboratory since 1977 and the orthopaedic research program since 1981. He was named professor of surgery (orthopaedics) in 1984 and concurrently served as chief of Y-NHH's orthopaedic service.

In 1982, Dr. Friedlaender received the Kappa Delta Award for Outstanding Orthopaedic Research from the American Academy of Orthopaedic Surgeons and the Orthopaedic Research Society. He has written extensively on tissue banking, fracture healing and bone allografts and coedited three textbooks on these subjects.

Dr. Richard Greenspan Named Associate Dean

Dr. Richard H. Greenspan, professor and chairman of the Yale School of Medicine's Department of Diagnostic Radiology, has been appointed to the newly created position of associate dean for clinical affairs.

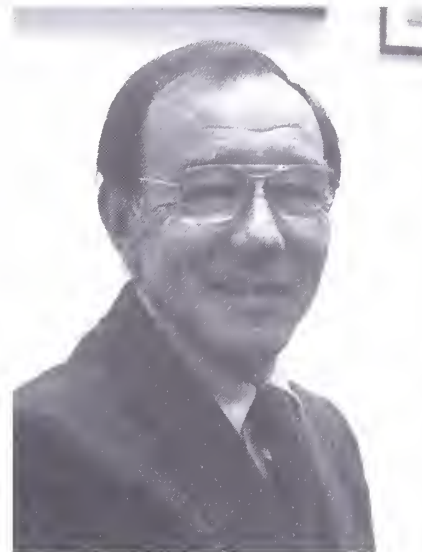
"Dick Greenspan brings strong experience in clinical medicine to this new post. He has demonstrated his medical and administrative abilities in leading Diagnostic Radiology, a department which provides the highest quality patient care and offers superb clinical training programs. He also possesses a record of excellence in teaching and research and a broad knowledge of health care financing," said Dr. Leon E. Rosenberg, Dean.

"As associate dean for clinical affairs, Dick Greenspan will provide the leadership to establish an office that will further develop and coordinate clinical care by our full-time faculty physicians," the dean said. "He also will encourage the development of new and innovative clinical programs by working in cooperation with the school's clinical department chairmen and with colleagues at Yale-New Haven Hospital."

In his new position, Dr. Greenspan will chair the executive committee of the Faculty Practice Plan, established in 1981 to bring together administrative, management and financial activities of the full-time faculty physicians.

Dr. Greenspan, who has served as department chairman and chief of diagnostic imaging at Y-NHH since 1973, is known internationally for his research in clinical magnetic resonance imaging. He was one of the medical faculty members instrumental in planning the Magnetic Resonance Center, a joint school-hospital project that opened in May.

He first came to Yale in 1960 as assistant professor of radiology and was named professor in 1964. Between 1968 and 1973, he served on the medical faculty at the University of California at San Francisco.



Dr. Richard H. Greenspan

When Dr. Greenspan returned to become the first chairman of the Department of Diagnostic Radiology, he focused on the study and techniques of diagnosing illnesses using radiologic methods. His research has encompassed a major project to evaluate the accuracy of current diagnostic techniques for patients suspected of having pulmonary embolism.

A native of New York City, Dr. Greenspan received a B.A. degree in 1944 from Columbia University, and four years later was awarded an M.D. degree, magna cum laude, from Syracuse University College of Medicine.

Dr. Greenspan interned at Michael Reese Hospital in Chicago and then worked in the hospital's gastrointestinal research department. Between 1950 and 1952, he took residency training in internal medicine at the University of Minnesota Hospitals and, after a two-year stint in the U.S. Air Force, returned to Minnesota for radiology training. In 1957 he became an instructor and later an assistant professor in the radiology department there.

He has written more than 100 articles for scientific publications and for eight years served as editor-in-chief of the journal *Investigative Radiology*.

A member of numerous national professional committees, Dr. Greenspan is a past president of the Fleischner Society and the Association of University Radiologists (AUR). He received the gold medal from the AUR in 1984.

A fellow of the American College of Radiology and a member of Sigma Xi and Alpha Omega Alpha, Dr. Greenspan was a National Science Foundation Senior Post-doctoral Fellow in 1966 and a Josiah Macy Jr. Foundation Faculty Scholar in 1980.

Class of 1990 Brings Diversity

Women comprise 35 percent of the first-year class that enrolled this fall at the Yale School of Medicine. The 36 women were among the 102 students selected for the Class of 1990 from 2,326 applicants. According to Dr. Robert H. Gifford, associate dean for medical education and student affairs, the enrollment of women has doubled in the last 20 years.

The increased enrollment of women at the school has made Yale "a better place," says Dr. Gifford. Speaking at the mid-September opening of a Yale Medical Library exhibit on the school's early women graduates, Dr. Gifford said: "There has been a new life and a new sensitivity instilled in all of us. Some of our rough edges have been smoothed. We have learned for certain that gender has absolutely nothing to do with one's ability to be a physician. We owe a great debt to those who led the way."

The Class of 1990 includes one student accepted through the early decision plan, seven students enrolled in the M.D./Ph.D. program and six children of Yale University alumni (four of the parents are medical alumni). Eight of the first-year students hold master's degrees; one has a Ph.D.

Black Americans and other minority students comprise 26 percent of the Class of 1990. Three of the first-year students are foreign nationals. Students in the Class of 1990 range in age from 19 to 39, with a mean age of 23.5.

The majority of the Class of 1990 were science majors as undergraduates, with biology, biochemistry and chemistry being the dominant areas of concentration. Twenty-seven percent of the class majored in the humanities and social sciences. As an undergraduate group, the Class of 1990 earned a mean cumulative grade-point average of 3.69.

The first-year students now enrolled earned their undergraduate degrees at 54 colleges throughout the United States and one in England. Fourteen are Yale alumni, 10 came from Stanford, six each graduated from Harvard and Brown. Although New England college degrees are heavily represented (41), more than half of the Class of 1990 hold degrees from colleges in the Southeastern, West Coast and Mid-Atlantic states.

In the Department of Epidemiology and Public Health, 99 students are enrolled in the first-year class. The EPH Class of 1990 includes 64 women; 22 Black, Hispanic and Asian Americans; and 15 foreign nationals. The first-year students come from 26 states and 12 countries. Thirty hold M.D. degrees, 10 are nurses; the remainder earned undergraduate degrees in the sciences and liberal arts. The Department of Epidemiology and Public Health, in addition to being a department of the medical school, is an accredited school of public health.

Minority Students Conduct Research

Eight students from the Greater New Haven area participated in the School of Medicine Summer Research Apprenticeship Program for Minority High School Students.

The eight-week, federally funded program provided the minority students with meaningful experiences in various aspects of biomedical science and health care to stimulate their interest in careers in science.

The students were introduced to various settings in the medical school and the John B. Pierce Foundation Laboratory. They attended a weekly lecture series and spent 30 hours a week in laboratory research with Yale faculty members who helped them understand biomedical research and learn technical skills involved in conducting research.

Since the program started in 1980, 57 students, including those in 1986, have participated at Yale. It is designed for minority students who identify themselves as being Black, Hispanic, American Indian, Alaskan native or Pacific Islander/Asian. The Yale program is one of 74 that the National Institutes of Health, Division of Research Resources funds at medical schools in 33 states, Washington, D.C., and Puerto Rico.

IN PROGRESS

NIDA Funds Research Center on Cocaine and Opioid Abuse

A new Clinical Research Center to develop improved ways to treat people with opioid and cocaine abuse problems has been established at the School of Medicine.

Dr. Herbert D. Kleber, professor of psychiatry, will direct the new center for which the National Institute on Drug Abuse (NIDA) has granted Yale University \$1,491,000 during the next five years. This is one of two centers NIDA has funded nationally.

"The center, which arises out of research that medical school faculty members have conducted during the past 17 years in the Connecticut Mental Health Center and APT Foundation's Substance Abuse Treatment Unit, will lend a new coherence and breadth to our work," Dr. Kleber says.

"We will undertake several major new projects, including the first comprehensive study in humans of the transition from methadone treatment to naltrexone via a new agent, buprenorphine," Dr. Kleber says. "By switching patients from methadone to buprenorphine before naltrexone, we hope to alleviate withdrawal

problems and improve the success rate for treatment."

Methadone, an agonist, has been widely used to treat opioid addicts; these patients generally stay in treatment programs but remain opioid dependent. Naltrexone, an antagonist, does not produce opioid dependence, but it can be difficult for patients to begin and remain in treatment programs.

Besides Dr. Kleber, the new Clinical Research Center leaders include Dr. Bruce J. Rounsaville, associate professor of psychiatry, as scientific director, and Dr. Thomas R. Kosten, assistant professor of psychiatry, as associate scientific director.

Dr. Kosten will head the treatment research division that will develop and test innovative treatment approaches.

Dr. Frank H. Gawin, assistant professor of psychiatry, and Dr. Robert Byck, professor of psychiatry and pharmacology, will study the clinical interaction of cocaine with three commonly used treatment drugs that may affect either cocaine treatment or toxicity.

Dr. Dennis S. Charney, associate professor of psychiatry, will head the neurobiology division to investigate the neurochemical, neuroendocrine and neuropharmacological correlates of opioid and cocaine use and withdrawal in humans.

In the project, Dr. Charney will investigate whether hormonal changes that result from long-term drug use are related to the development of drug withdrawal syndromes and the response to specific treatment.

"At the new Clinical Research Center, we also will coordinate Yale's rich training programs and research resources on substance abuse disorders," Dr. Kleber adds.

Seminars on drug abuse treatment and training opportunities at the Substance Abuse Unit and other sites will increase the number of health professionals skilled in treating opioid and cocaine abusers from all walks of life.

Pediatricians to Assist Children at Camp

Some physicians and staff in the School of Medicine Department of Pediatrics may go to camp in Northeastern Connecticut next summer as part of actor Paul Newman's dream to open the Hole-in-the-Wall Gang Camp.

Boys and girls who have cancer, blood diseases or other life-threatening diseases will enjoy camp experiences, much as healthy youngsters do, under safe and relatively unobtrusive medical supervision. The camp is to be constructed on a 267-acre site, with a 47-acre lake, that overlaps the town boundaries of Ashford and Eastford.

The camp will be closely associated with the Department of Pediatrics and Yale-New Haven Hospital, both of which will cooperate to provide medical services and co-

ordinate medical care with other camp activities.

Dr. Howard A. Pearson, professor and chairman of pediatrics, said that the children with chronic illnesses will be assured of having fun, as well as the proper medical supervision. "We will provide first-class quality medical backup on the site so the children and their parents will have no concerns."

Dr. Pearson will provide medical supervision for the camp. Among the seven physicians serving on the medical advisory board are Yale's Dr. Peter Beardsley, associate professor of pediatrics, and Dr. Diane Komp, professor of pediatrics. In addition, Dr. Arnold Altman, Y-NHH House Staff 1965-66, serves on the advisory board. He is head of the University of Connecticut Health Center Division of Hematology/Oncology.

At a mid-September press conference announcing the camp, Dr. Myron Genel, associate dean for government and community affairs, said, "The need for a camp for seriously ill children has been created by the success of basic and clinical biomedical research which enables a majority of children to survive, but often with major disabilities. Yale faculty have made and continue to make major contributions to this effort."

The camp will accommodate the special needs of children aged 7 to 17 years with multiple diagnoses, and at the same time will provide them with outdoor experiences in an "Old West" spirit. Campers will live in log cabins, visit a corral filled with animals, sing in an old-fashioned music hall, swim, canoe, hike and camp out overnight.

Actor Newman, who lives in Westport, Conn., hopes the camp will open next summer for two, two-week sessions for approximately 50 children. In the future, enrollment is anticipated to increase to some 150 children for eight, two-week sessions. Children will attend the camp at no cost.

The estimated cost to build and endow the camp is \$8 million and Paul Newman's food companies, which make popcorn, salad dressing and spaghetti sauce, will provide half the funds.

FACULTY NEWS

Dr. Donald J. Cohen, director of the Child Study Center and professor of pediatrics, psychiatry and psychology, was elected vice president of the International Association of Child and Adolescent Psychiatry and Allied Professions at its international congress in Paris in July.

Lisa F. Berkman, associate professor of epidemiology, is the principal investigator for one of four core studies in the MacArthur Foundation Research Program on Successful Aging. While previous studies have concentrated solely on changes that occur

with age, this investigation focuses on identifying factors that account for the variability in functioning found among people of the same age. A better understanding of the psychosocial, environmental and biomedical influences in aging processes and of how these processes influence physical and mental health is expected.

Dr. Steven D. Helgerson and **Dr. James F. Jekel** were named co-recipients of the 1986 Distinguished Teaching Award that the Epidemiology and Public Health Student Organization presented this spring. They were recognized for their teaching ability, excellence in and contribution to their field, concern for students and dedication to the department's educational program. Dr. Helgerson is assistant clinical professor of epidemiology and public health, while Dr. Jekel is the Charles E-A. Winslow Professor of Public Health.

The American Public Health Association and its Maternal and Child Health Section presented the 1986 Martha May Eliot Award to **Dr. George A. Silver**, professor emeritus of public health, at its annual meeting in Las Vegas, Nev. The award, which honors its namesake, the former head of the federal Children's Bureau, recognized Dr. Silver as "the nation's foremost exponent of public policies which give special priority to the needs of children."

Three Become Emeritus

Three members of the Yale faculty retired July 1, 1986.

Dr. Jack W. Cole, Ensign Professor of Surgery and vice chairman of the Department of Surgery, is considered an authority on intestinal cancer. He has done extensive research on the physiological and structural changes that occur in tissue and blood cells as a result of surgical stress. He was chairman of the Department of Surgery from 1966 to 1975 and director of the Comprehensive Cancer Center from 1976 to 1984.

William R. Goff, Ph.D., professor of neurology and psychology, held joint appointments at the medical school and the Veterans Administration Medical Center, where he served as chief of the Neuropsychology Laboratory since 1964. There, he developed and established innovative research methods and instrumentation, which were applied to basic problems of sensory neurophysiology and to clinical problems in epilepsy and brain-damaged individuals.

Dr. Martha F. Leonard, professor in the Child Study Center and professor of pediatrics, has been a faculty member for 24 years. Her work on youngsters has covered a range of interests, from studies of infants who refuse to eat to research on first-born infants from disadvantaged families, to developmental evaluations of children with congenital hypothyroidism.

International Prize Honors Researchers Studying Depression

Myrna M. Weissman, Ph.D., professor of psychiatry and epidemiology and director of the Depression Research Unit at Yale, and **Gerald L. Klerman**, M.D., formerly professor of psychiatry and director of the Connecticut Mental Health Center at Yale School of Medicine, have been awarded the prestigious Anna-Monika Prize for their research on testing the effectiveness of psychotherapy and drugs in treating clinical depression.

The Anna-Monika Foundation presented the international award at a ceremony at the University of Basel. The prize, presented every two years, recognizes recent advances in knowledge in understanding the causes and treatment for depression.

Since 1967, Drs. Weissman and Klerman and their colleagues have developed new treatment approaches and have evaluated their effectiveness in treating clinically depressed patients. Results of two major studies indicate that drugs and interpersonal psychotherapy, used together, are most effective to treat acute depression.

During the research, the group developed interpersonal psychotherapy (IPT), a brief treatment focusing on the reduction of depressive symptoms and interpersonal problems often associated with clinical depression. These problems include: grief, interpersonal disputes, role transitions or interpersonal deficits.

Interpersonal psychotherapy, which they have described in a book *Interpersonal Psychotherapy of Depression*, published by Basic Books in 1984, was selected by the National Institute of Mental Health (NIMH) as one of the treatments in a multi-centered clinical trial of drugs and psychotherapy conducted in three university centers.

Shortly before Drs. Weissman and Klerman received the Anna-Monika Prize, the NIMH announced the study's results and reported that IPT was as effective as drugs in reducing the symptoms of depression over a 12-week period. Dr. Klerman currently is professor of psychiatry at Cornell University Medical College.

ALUMNI NEWS

GEOFFREY KERRIGAN



Dr. George W. Namburg Jr., a 1945 graduate of Yale medical school who practices psychiatry in Manhattan and serves as an associate clinical professor of psychiatry at the Mount Sinai School of Medicine, has combined his working knowledge of chemistry, physics and bacteriology with his love of farming and wine to develop the North Salem Vineyard. Approximately 60 medical alumni and their guests from Westchester and Fairfield counties gathered Oct. 11 for a cookout and winery tour at the vineyard Dr. Namburg planted in 1965 with 36 grapevine varieties. Dean Leon E. Rosenberg met informally with medical and EPH alumni at North Salem, N.Y., just as he has done this year with alumni in Durham, N.C.; Hartford, New Haven and San Francisco, Calif. Talking on the winery balcony, from left to right, are: Dr. Namburg, Dr. Dwight F. Miller, president of the Association of Yale Alumni in Medicine, Diane Rosenberg and Dean Rosenberg.

Dr. Martin E. Gordon '46, associate clinical professor of medicine at the Yale School of Medicine, continues to consult in gastroenterology and lecture nationally on the new medical specialty, emporiatrics (medical problems of travel). He delivered the annual lecture of the Southern California Endoscopy Society, "Rudolf Schindler - Glimpses of the Endoscopic Pioneer," and presented a paper on "The Gastroenterologist Becomes Emporiatrist - A Short Step in Resolving Diagnostic Dilemmas of the Traveler" at the American College of Gastroenterology's annual meeting in Atlanta, Ga.

Dr. Gordon has developed the "POCKET DOC," a medical aid for travelers, a sequel to the "GLOBAL DISEASE GUIDE," which was designed as a pre- and post-travel diagnostic device for physicians and hospitals.

Dr. Joseph S. Pagano '57, has been appointed to the Lineberger Professorship in Cancer Research at the University of North Carolina at Chapel Hill. The professorship was established with part of a gift from the Lineberger family, pioneers in the textile industry in North Carolina. Dr. Pagano is a professor in the departments of medicine, microbiology and immunology in the school of medicine and director of the Lineberger Cancer Research Center.

Dr. Mohandas M. Kini '65, of Wakefield, Mass., met with Prime Minister Rajiv Gandhi in New Delhi, India in March. Mr. Gandhi was the honored guest at a function held by the Medical Research Foundation, a non-profit institution providing medical and surgical eye care in Madras, India. Dr. Kini has been an honorary consultant to the Medical Research Foundation since its inception in 1978. He has taught and trained Medical Research Foundation consultants at the Massachusetts Eye & Ear Infirmary and Boston University Medical Center. Dr. Kini is on the staff of the Massachusetts Eye & Ear Infirmary, University Hospital, Melrose-Wakefield and Malden Hospitals.

Dr. Anthony Proto '71, of Midlothian, Va., was named a fellow of the American College of Radiology at its annual meeting in Baltimore, Md.

Dr. Allan L. Naarden, HS '71, was promoted to clinical professor of neurology at the University of Texas Health Science Center at Dallas on July 1.

Dr. Louis V. Kirchhoff '77, has received the prestigious Syntex Scholars Program Award. One of two researchers selected nationally, he was awarded a three-year, \$150,000 grant to study Chagas' disease, an illness caused by the parasite *Trypanosoma cruzi*. Dr. Kirchhoff is an as-

sistant professor in the infectious diseases division of the University of Iowa College of Medicine, department of internal medicine.

The annual Maxwell Bogin Pediatric Lecture at Bridgeport Hospital in Connecticut featured four speakers, including Dr. Robert S. Baltimore, associate professor of pediatrics and epidemiology. **Dr. Bogin** attended the day-long event. In spite of limited activities, he helped with the North Salem Vineyard event for Dean Rosenberg and continues his long service as Fund Class Agent for the Class of 1926.

Dr. Michael B. Mayor '65, was appointed chairman of the orthopaedics division at Dartmouth-Hitchcock Medical Center in July. Since 1971, he has been associated with the Hitchcock Clinic as an orthopaedic staff surgeon and has achieved the rank of associate professor of clinical surgery.

At the 130th annual meeting of the Hawaii Medical Association's House of Delegates, **Dr. William H. Hindle** '56 of Honolulu was presented a Presidential Medal. The Hawaii Medical Political Action Committee also presented him an award for outstanding contributions as chairman of the Task Force on Tort Reform.

IOM Elects New Members

Three of the 30 new members elected to the Institute of Medicine are affiliated with the Yale School of Medicine. The new members, who began their terms July 1, are **Frederick C. Battaglia**, M.D. '57, **Paul G. Quie**, M.D. '53, and **Robert G. Shulman**, Ph.D., professor of molecular biophysics and biochemistry.

1987

ALUMNI WEEKEND

JUNE 5 and 6

For entertainment,
education and a bit
of nostalgia, plan
now to attend!

NEW BOOKS

The Scientific Basis of Clinical Pharmacology: Principles and Examples, by Reynold Spector, M.D. '66, professor of internal medicine and pharmacology, University of Iowa College of Medicine. Little, Brown and Company, (Boston, Mass.) 1986, 538 pp.

The Physiology and Biochemistry of the Uterus in Pregnancy and Labor, edited by Gabor Huszar, M.D., associate professor of obstetrics and gynecology and pediatrics. CRC Press, Inc., (Boca Raton, Fla.) 1986, 328 pp.

Automated Visual Field Testing: Techniques of Examination and Interpretation, by David E. Silverstone, M.D., assistant clinical professor of ophthalmology and visual science, and Joy Hirsch, Ph.D., associate professor of ophthalmology and visual science. Appleton-Century-Crofts, (Norwalk, Conn.) 1986, 384 pp.

Ethics & Regulation of Clinical Research, second edition, by Robert J. Levine, M.D., professor of medicine. Urban & Schwarzenberg, (Baltimore, Md.) 1986, 370 pp.

Methods in Observational Epidemiology, by Jennifer L. Kelsey, Columbia University School of Public Health; W. Douglas Thompson, assistant professor of epidemiology, and Alfred S. Evans, M.D., John Rodman Paul Professor of Epidemiology and director of the World Serum Bank. Monographs in Epidemiology & Biostatistics series, 1986, 384 pp.

Expert Critiquing Systems: Practice-Based Medical Consultation by Computer, by Perry L. Miller, M.D., assistant professor of anesthesiology. Springer-Verlag, (New York) 1986, 182 pp.

When A Doctor Hates A Patient: And Other Chapters in a Young Physician's Life, by Richard E. Peschel, M.D., Ph.D. '77, associate professor of therapeutic radiology and director of the residency program in therapeutic radiology, and Enid Rhodes Peschel, co-director of the Program for Humanities in Medicine. University of California Press, (Berkeley, Calif.) 1986.

OBITUARIES

Seymour Lipsky, M.D.

Dr. Seymour "Sandy" Lipsky, professor emeritus of laboratory medicine, died on Sept. 20, 1986 at Yale-New Haven Hospital after a long illness. He had been director and professor of physical sciences and professor in the Department of Laboratory Medicine until his retirement in July 1985. He was 62.

He received a B.A. degree from University Heights College in 1944 and an M.D. degree from the State University of New York College of Medicine in 1949. After completing his residency training in medicine at the University of California in 1952, he began his career at Yale as a post-doctoral research fellow in the Department of Medicine. He was named instructor in 1955, assistant professor in 1956, associate professor in 1966 and promoted to full professor in 1968.

Dr. Lipsky trained as a physician in internal medicine but established himself in physical biochemistry. He made many original contributions to the development of gas chromatography and its use in biochemistry.

He received many honors and awards, including an honorary M.A. degree from Yale University in 1968, the M. Tswett Award of the Academy of Sciences by the USSR in 1978, an unusual distinction for an American scientist, and the Tswett Medal of the International Symposium on Advances in Chromatography in 1982.

Dr. Lipsky served as vice chairman to a special advisory committee of the National Heart Institute from 1960 to 1963. He was involved with the National Aeronautics and Space Administration from 1961 to 1970. He served as consultant to the Lunar Sciences Subcommittee and Lunar and Planetary Program Committee, and was the principal experimenter for the Surveyor Lunar Soft Landing Mission and for the detection of organic compounds and gases on the surface of Mars. He also was a member of the National Academy of Sciences Postdoctoral Fellowship Committee.

Dr. Lipsky is survived by his wife, Pearl Reitman Lipsky; a daughter, Jan Lipsky of Lincoln, Mass.; two sons, John Lipsky of Hamden, Conn. and James Lipsky of Boston, Mass.; and one grandchild.

Robert S. Adams, M.D.

Dr. Robert S. Adams, clinical professor in the Yale Child Study Center and Department of Psychiatry, died on Sept. 29, 1986 at his home in Woodbridge, after a two-year battle with amyotrophic lateral sclerosis. He was 62.

Dr. Adams had a distinguished medical career. He received his B.A. degree from

Columbia College in 1945 and his M.D. degree from Columbia College of Physicians and Surgeons in 1948. He completed his internship and residence in medicine at Boston City Hospital in 1950 and subsequently trained in psychiatry at the Boston VA Hospital and in child psychiatry at Massachusetts General Hospital and the James Jackson Putnam Children's Center in Boston, Mass. He finished his training in adult and child psychoanalysis at the Western New England Psychoanalytic Institute.

Dr. Adams was director of the Waterbury Child Guidance Clinic from 1957 to 1986 and consultant to the Taft School from 1963 to 1968. He also was president of the Connecticut Council of Psychiatrists, and from 1980 to 1982 was president of the American Association of Psychiatric Services for Children.

In addition, Dr. Adams served on several national committees, and was chairman of the Committee on Early Periodic Screening of both the American Academy of Child Psychiatry and the American Association of Psychiatric Services for Children. He also was a member of the editorial board of the Journal of the American Academy of Child Psychiatry and published papers on consultation.

He received many awards and citations for his contributions to national, state and community mental health programs for children and their families. Dr. Adams was given the Outstanding Practitioner Award from the American Association of Psychiatric Services for Children in 1986, a certificate of appreciation from the State of Connecticut Department of Children and Youth Services in 1985, and the Phoebe Bennet Award from the Connecticut Association of Mental Health Clinics for Children in 1986.

He is survived by his wife, Irene, and his children, Lisa, Jeffrey and Jonathan.

Louis R. Mattie, M.D.

Dr. Louis R. Mattie, assistant clinical professor of medicine, died June 22, 1986 at Yale-New Haven Hospital. Dr. Mattie, a native of New Haven, received his M.D. degree from the Yale School of Medicine in 1952 and was a postdoctoral fellow in cardiology from 1955 to 1956, when he began his private practice. He was a past president of the New Haven Heart Association.

He is survived by his wife, Camile Panico Mattie; his mother, Lucy Ragozzino Mattie; a daughter, Michelle Mattie Geremia; a son, David P. Mattie; two sisters, Mary Elpi and Anne Ferguson; and a brother, Dr. Edward Mattie.

IN MEMORIAM

Fu-Chun Yen November 29, 1970	'09 M.D.
William Wyatt Strange, M.D. April 27, 1985	'19 HS
Milton B. Berman July 11, 1986	'27 M.D.
Edward E. Harkavy July 25, 1986	'27 M.D.
Edgar I. Boggs, M.D. 1984	'22 HS
Gonsalvo C. Williams Jr. April 26, 1986	'25 M.D.
Lewis Dickar August 20, 1986	'30 M.D.
Vernon P. Williams, M.D. April 6, 1986	'32 HS
Carl Hendricks Wies April 22, 1986	'32 M.D.
Ashley Pond III March 17, 1986	'33 M.D.
Donald P. Morris July 1986	'35 M.D.
Fernald C. Fitts June 13, 1986	'36 M.D.
Franklin F. Ferguson March 8, 1986	'36 M.D.
George A. Hahn, M.D. May 2, 1986	'36 HS
Albert W. Dautrich May 3, 1986	'39 M.D.
John A. Murtagh, M.D. January 15, 1986	'38 HS
William R. Haas, M.D. June 25, 1986	'40 HS
Nina Toll May 22, 1986	'41 M.P.H.
William Astrom Ahroon, M.D. October 1983	'43 HS
Robert R. Berneike, M.D. March 15, 1986	'46 HS
Charles W. Karpinski January 9, 1986	'47 M.D.
Louis R. Mattie June 22, 1986	'52 M.D.

Archie J. Golden May 9, 1986	'50 M.D.
Charles W. Chace June 16, 1986	'52 M.D.
Dorothea Abt June 9, 1986	'53 M.P.H.
Edwin R. Ranzenhofer July 7, 1986	'54 M.D.
Col. David M. Robinson April 28, 1986	'54 M.D.
Dr. Israel Gitlitz March 17, 1986	'55 D.P.H.
Marvin L. Schulman August 18, 1986	'59 M.D.
Edward Call Jr. December 16, 1985	'59 M.D.
Charles R. Carrington, M.D. September 1985	'64 HS
Bernhard H. Lisker April 8, 1986	'75 M.D.
Charles T. Davisson June 20, 1986	'78 M.D.
Terry Newlove, M.D. May 18, 1985	'79 HS

THE CAMPAIGN FOR THE YALE SCHOOL OF MEDICINE

Campaign Update

The new Magnetic Resonance Center was dedicated on November 19. This first completed project of The Campaign for the Yale School of Medicine symbolizes the campaign's goal to insure the school's leadership in the advancement of medical science.

Many challenges remain for the campaign's leaders. More than \$40 million in endowment gifts is required, and the search continues for gifts to support laboratory renovations and to construct the Center for Molecular Medicine.

Corporations Endorse the Campaign

A number of significant developments have occurred in recent months regarding corporate gifts for The Campaign for the Yale School of Medicine.

The Corporate Consortium for Clinical Epidemiology is well on its way to completion. This project seeks \$1.25 million from 10 corporate members over a five-year period. It is intended to improve the capability of Yale's Clinical Epidemiology Unit to evaluate the safety and efficacy of health care products. This funding will help the unit develop alternatives to the randomized clinical trial method of research. Presently, five corporate members have been enlisted: Proctor and Gamble Co., Pfizer Inc., Schering-Plough Corp., Boehringer Ingelheim Ltd. and International Playtex Inc. Members of the consortium will hold their first meeting in January 1987.

The School of Medicine will receive more than \$400,000 of computer equipment for instruction and research during the next 12 months. This equipment is from Project Eli, which is to support the use of instructional computer workstations throughout the campus. The core of Project Eli is formed by a \$6.5 million grant from International Business Machines Corp.

The Merck Company Foundation will participate in the campaign with a \$150,000 gift to renovate one of the main gastroenterological laboratories in the Division of Digestive Diseases. This gift was generated by the long-standing relationship between Merck and Yale in life sciences research.

Recent campaign gifts have been made by GTE—\$75,000 for minority scholarships in medicine and by Harvey Hubbell Incorporated—\$75,000 for geriatric

medicine. These and other Connecticut companies seem well aware that the Yale School of Medicine, one of two medical schools in the state, maintains and improves the high quality of health care that Connecticut citizens have come to expect.

Tax Reform and Gifts in 1986

The sweeping tax reform that Congress approved in September raised many questions about the law's impact on higher education, particularly charitable giving. Leaders of The Campaign for the Yale School of Medicine have followed the new tax measure throughout the past year.

"Once people understand the new rules on giving, contributions to Yale will continue to grow," says Frank A. Sprole, co-chairman of the campaign. "However, 1986 holds some special advantages for donors who have already made up their minds to help the campaign." Mr. Sprole, a 1942 graduate of Yale College who studied law at Columbia, says he wants people to understand the new rules on giving because "the tax benefits make it possible to give a little more."

Although he believes people should be aware of the tax aspects of their contributions, Mr. Sprole emphasized other motivations for giving. "Our gifts are intellectual and spiritual expressions of ourselves rather than just a line on one's tax return. To many people, their time is even more precious than money, and yet those same busy people volunteer their time to help universities, hospitals, churches or synagogues without any prospect of a tax benefit. That desire to help others is the primary reason most people give to the campaign."

Profiles of Donors Who Benefit by Giving Before December 31, 1986

Non-itemizer: He rents his apartment and has no major medical expenses, so it makes sense to file a short form (1040A). Each year he gives to financial aid for medical students. In 1986 for the first time, the non-itemizer can deduct 100 percent of the total amount contributed to Yale and other qualified charitable organizations. Tax reform will eliminate this new "above the line" deduction in 1987.

Donor in the 50 percent tax bracket: Her high income is taxed heavily, forcing her to plan each deduction carefully. Since her top

tax rate will fall to 38.5 percent in 1987, she calculates that she can actually give more to Yale by making a major contribution in 1986. For example, a \$100,000 gift with her 50 percent bracket saves \$50,000 in taxes, while the same gift in 1987 saves only \$38,500.

Donor with appreciated property: He is concerned about the alternative minimum tax, yet he wants to help the campaign by giving Yale a building lot he bought three years ago for \$5,000. Today it is worth \$25,000. He can donate that land in 1986, eliminate the capital gains tax and take a tax deduction for the full value of the property. In 1987, appreciation of the donated property (\$20,000) would be included in calculating any alternative minimum tax (AMT) liability. The AMT was designed to ensure that taxpayers who claim large deductions do not escape tax altogether.

If you are considering a gift in 1986 and have questions about the campaign or the impact of tax reform on your giving, contact the Office of Development, Yale School of Medicine, 350 Congress Avenue, 3-C, New Haven, Conn. 06519, or call Will Melton (203) 785-4420 or Sue Dorn (212) 759-1356 of the medical development staff.

Progress Report Summary As of September 30, 1986

PROJECTS

General Endowment	6,350,120
Professorships	8,299,012
Fellowships	3,385,816
Total Endowment	\$18,034,948
Center for Molecular Medicine	20,100,000
Magnetic Resonance Center	2,775,000
Modernization of Labs	2,884,500
Medical Library	8,000,000
Other	5,161,192

Total Facilities and Equipment	\$38,920,692
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Total Programs and Research	\$39,927,105
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TOTAL	\$96,882,745
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SOURCES

Corporations	14,221,086
Foundations	36,740,214
Individuals	34,473,336
Other	11,448,109
TOTAL	\$96,882,745

REUNION 1986

by Nicholas P.R. Spinelli, M.D.

The June rains did not dampen alumni/ae spirits at one of our largest and warmest reunions. The weekend began with a seminar planned by the 25th reunion class at which 11 members of the Class of 1961 summarized their clinical and research careers. Papers were presented by Drs. Kenneth D. Arndt, David W. Brook, Philip Felig, Margurite Stein Lederberg, Robert I. Levy, Vincent T. Marchesi, Charles R. Sacchatello, Robert N. Taub, John V. Weil, John R. Woodward and Warren D. Widmann. Dr. Widmann moderated the seminar.

Dr. Samuel O. Thier, president of the Institute of Medicine, delivered the keynote address on "The Challenge to Yale Medicine: Protecting Excellence in an Unpredictable Environment." Before his speech, Dr. John D. Pastore '67, associate professor of medicine at Tufts University and secretary of the International Physicians for the Prevention of Nuclear War, spoke on "Physicians and the Nuclear Arms Race." The organization was awarded the 1985 Nobel Peace Prize.

A new feature for any returning alumni/ae was the Medical Reunion Dinner on Friday in the Presidents' Room at Woolsey Hall. A dance followed in Commons, and the entire Yale medical family, including the Yale-New Haven Hospital staff, was invited. Despite the rain, the attendees enjoyed dancing in this unusual environment. Both entertaining events may become traditions of future reunions.

Outgoing Yale President A. Bartlett Giamatti greeted a standing-room-only crowd of alumni and guests on Saturday morning. Then, at the Association of Yale Alumni in Medicine annual business meeting, President Dwight F. Miller '56 presided, and Dean Leon E. Rosenberg presented the traditional "State of the School" message. The appointment of department chairmen was announced, and details of six major construction projects were presented.

Dr. Lawrence Pickett '44 and Dr. Russell Scobie '29 were presented Distinguished Service Alumni Awards for 1986.

Dr. Lowell Goodman '51, chairman of the Medical School Alumni Fund, reported that \$418,816 had been collected. (The final figure was to reach a record \$512,145). Kathleen Howe reported that \$30,000 had been collected for the Department of Epidemiology and Public Health.

Dean Rosenberg presented a citation to Dr. Goodman as outgoing chairman and announced that Dr. Leonard Kemler '43 would become the new chairman in July.

Dr. Miller greeted each reunion class, from the 50th led by Philip LeCompte to the fifth by Barbara Ross. Special citations were presented to each member of the 50th reunion class. Special recognition to senior alumni present included Arthur Griswold '21, Helen Langner '22, David Raskind '24, Maxwell Bogin '26 (60th reunion), and Michael D'Amico and Ben Klotz, both '31 (55th reunion).

The traditional sherry hour and sumptuous Alumni Day luncheon followed in Harkness Hall.

On Saturday afternoon, the Class of 1961 held an unstructured dialogue with three generations of physicians. Two faculty members who taught them, Dr. Tom Forbes in anatomy and Dr. Samuel Kushlan '35 in internal medicine, were guests. Also participating were members of the Class of 1989: Valerie Asher, Steven Bharucha, Howard Kesselman, Greg Koshkarian, John Mott, Marjorie Scharoun and Jonathan Shifren. The discussion—truly a generational dialogue—provided an interesting orientation for the young students whose time to come promises so much wrenching change. The 1986 reunion also celebrated the 75th anniversary of child development and child psychiatry at Yale with lectures in the Yale Child Study Center. Other educational seminars focused on geriatrics, treatment of affective illnesses and medical education, including admissions.

Individual class dinners were held on Saturday evening. The fourth annual "Friends of the 50th" dinner, sponsored by the medical school to honor alumni at their 50th reunion, was held at the Graduates Club. Approximately 100, mostly older or non-reunion alumni, enjoyed a gala evening, with nine returning graduates from the Class of 1936 recounting personal experiences.

A special feature was the presence of Class of 1981 members who returned for their first reunion as guests of the school. A record 21 returnees, one fifth of the class, came with 15 guests. These happy young people added a note of pleasant celebration and enjoyed the dialogue with the older physicians. This successful gesture promises to become a tradition of Yale medical reunions.

REUNION REPORTS

1936

50th Reunion

by Philip M. LeCompte

Ours was a bang-up reunion which took place in almost constant rain (our spirits undampened). Friday afternoon events were followed by the Dean's reception where there was plenty to drink and lots of shrimp. Dinner at Woolsey Hall was attended by **Ed Sullivan** and sister Pat Kober, **Fritz Post** and yours truly with wife Jean.

After a farewell address by retiring President A. Bartlett Giamatti, our class was presented special greetings from the President and Secretary of the University, complete with Yale Seal and a blue ribbon, believe it or not! Individual citations were given to each member of the class.

On Saturday evening, we attended a delicious dinner at the Graduates Club sponsored by the Yale Alumni Association. The first reunion of the Class of 1981 was similarly feted, and the combination of 21 of their number with us and about 30 other guests was delightful! Hosted by **Larry Pickett** and **Nick Spinelli**, introductions of our class followed. Each delivered brief autobiographical sketches.

Our group included: **Bill Barry** with wife Ceil; **Lester Burket** with wife Grace; **Nick D'Esopo** with wife Rose; **Al Diddle**; **Phil LeCompte** with wife Jean; **Dan McGillicuddy**; **Steven Nagfy** with wife Alla; **Fritz Post**; **Ed Sullivan** with sister Pat Kober.

The evening's sad note was the announcement of the death of **George Hahn**, our class agent, whom we had expected to be with us. George had an illustrious career in gynecology at Temple School of Medicine. A *George Hahn Memorial* has been established, and checks may be sent to: Yale Medical School Alumni Fund, *George Hahn Memorial*, P.O. Box 1890, New Haven, Conn. 06507.

Our reunion was a memorable event, and we all look forward to a reprise for our 55th.

1941

45th Reunion

by Robert W. Ollayos

Thirteen class members attended the reunion that was hosted, as usual, by **Charles**

Dr. Nicholas P.R. Spinelli is associate dean for medical alumni affairs.

Cheney. Attending, with their wives, were **David Pecora** (and daughter Ann), **Bjorn Lih**, **Bob Gilbert**, **Pete Duncan**, **Bill Kenney**, **Jack Parella**, **Willys Monroe** (with news of **John Franklin** and **Lloyd Flint**), **Bill Carey**, **Fred Glike**, **Bill Diefendorf** and **Bob Ollayos**.

Sending greetings were **Sophie Chamberlin Alway**, **Ed Connell**, **Bob Areson**, **Knute Berger** and **Randy Bell**.

Under the hospitable eye of **Charlie Cheney**, the group enjoyed the informative and entertaining weekend program that the medical school sponsored. The class dinner at the Graduates Club was crowded and convivial, as all were joined by the Classes of 1936 and 1981 for cocktails.

1946

40th Reunion

by Gregory E. Flynn

Members of the Class of 1946 who attended their reunion thoroughly enjoyed themselves. They were **Molly Joralemon Al-rink** and husband **Will**, **Bill Banfield**, **Tim** and **Phyllis Beck**, **Frank** and **Peg Behrle**, **Fred** and **Evette Biehusen**, **Sandy Bluestein**, **Jim Cooney**, **Bob** and **Linda Cooper**, **Greg** and **Peggy Flynn**, **Marty** and **Evelyn Gordon**, **Charlie** and **Mary Judd**, **Ben** and **Ava Kitchen**, the **Kleemans**, **Vinnie** and **Rosina Longo**, **Dick** and **Jerry Mann**, **Tom** and **Coli Mathieu**, **Joe Morris**, the **John Mortons**, the **Tom Murphys**, **Jack** and **Laura Neville**, **Vinnie** and **June Pepe**, **Julie Sachs**, **Don** and **Charlotte Shedd**, **Dick** and **Mitzi Sisson**, **Colby Stearns**, **Bruce Thayer**, the **Bob Wagners**, **Bill** and **Madori Wedemeyer**, **Hugh Williams**, **Eli** and **Emma Sue Wing** and **Tom** and **Norma Whelan**.

The formal program was interesting. Physical changes in the medical center were impressive. The Friday night dinner-dance was delightful.

On Saturday afternoon we visited the Gordons' beautiful home at Lindsay Lake where we spent a laughter-filled afternoon. Saturday dinner in the Captain's Room at Mory's was a magic evening emceed by **Don** (Dorian Gray) **Shedd** - only **Hugh Williams** changed less. Everyone was stirred by a vintage rendition of "McNamara's Band" by the talented General **Tom Whelan**.

Don limited all to three minutes to summarize their past 40 years. Charming us with stories were **Joe Morris**, **Julie Sachs**, **Bill Banfield** on glider flying, **Don Shedd** on surf sailing, **Bruce Thayer** and yours truly on scuba diving.

More seriously, we remembered all who did not attend and hope you'll be with us the next time. We want more time together. Never will we find companions whose identities are so similar: depression-born, with mutual goals, ethics, dedications and philosophical values. How fortunate we were to practice in these "Golden Years of



JEFFREY WAYNE

Dean Leon Rosenberg (left), William Kissick '57 M.D., '61 Ph.D. with reunion guests



Lawrence Pickett '44 M.D., recipient of 1986 Alumni in Medicine Distinguished Service Award



Dwight Miller '56 M.D., president, Association of Yale Alumni in Medicine, congratulates Russell Scobie '29 M.D., the 1986 Alumni in Medicine Distinguished Service Award recipient.

American Medicine." Our patient relationships were based on affection and personal interest. I hope Yale's new physicians will experience the same fulfillment we have.

The class's professional accomplishments are most impressive and would take a book to enumerate. We can all take pride in Yale Med. '46.

1951

35th Reunion

by John Sullivan

The reunion was modest this time. Most of the people we talked to are gung ho for the 40th and were taking a raincheck on the 35th. So be it, we enjoyed it. The academic program was as it should be: thoughtful and stimulating.

Friday night was a fun night with the Dean's reception, cocktails and a dinner-dance at Woolsey for all Yale medical family and guests. As I understand it, the medical alumni dinner-dance was **Lowell Goodman's** idea. This guy gets better with time.

Saturday night was a seafood luau at Ina and Sid Furst's wonderful beach home in

Woodmont. It was the ideal spot for our group. We had the **Tom Amatrudas**, the **Lowell Goodmans**, the **John Haxos**, the **Carrold Iversons**, the **Frank Allens**, the **Paul Bruchs**, the **Walter Morgans**, **Jocelyn Malkin**, the **John Sullivans** and the **Sid Fursts**. Much, much, much talk of the good old days, pictures of families.

It was a pleasant place to be with dear old friends!

1956

30th Reunion

by Dwight F. Miller

Twenty-four classmates convened in New Haven for a congenial reunion to celebrate our 30 years out. The reunion found everyone in good health and good spirits with youthful vigor. Between cocktails hosted by the **Gardners**, dinner hosted by the **Downings** and a New England clambake dinner at the Amarante Seacliff Inn, a spirit of kinship prevailed. All of the school activities were greatly enjoyed.

Present were **Alan Apfel**, **Alfred Berend**, **Leo Boyajian**, **Thomas Brown**,

John Carroll, Edwin Child, Chandler Dawson, Steven Downing, Mitchell Edson, Gilbert Eisner, Tom Ferris, John Gardner, Bill Gryboski, Al Gurwitt, John Hart, Bill Hindle, Marie-Louise Johnson, Jerome Klein, Dwight Miller, A. Frederick North, Bill O'Brien, David Page, Robert Scheig and James Scheuer.

1961

25th Reunion

by Anoush Miridjanian

On Friday, the first day of our reunion, 31 classmates and guests gathered to hear 11 colleagues summarize their academic and clinical activities. The following afternoon, they assembled as three generations of Yale medicine, with **Drs. Tom Forbes** and **Sam Kushlan** as special guests, and seven students from the Class of 1989.

The dialogue was intensely interesting. Each classmate summarized his 25 years of medical experience and perspectives of the rapid changes in medicine, as well as changing expectations of a society. Present conflicts and confusion in medicine fueled the dialogue.

The first-year medical students presented their concerns about the future character of medical practice, and a lively discourse emerged. The "old grads" felt that student participation should be part of future reunions.

A heartwarming dinner at Mory's wound up the event, which was our most entertaining and delightful reunion.

Attending the reunion were **Kenneth Arndt**, **Earl Baker**, **Robert Briggs**, **David Brook**, **Lawrence Chiaramonte**, **Paul Deiter**, **Wayne Downey**, **Philip Felig**, **John Fenn**, **Norbert Fleisig**, **Royal Hudson**, **Joseph Jasaitis**, **Marguerite Lederberg**, **Robert Levy**, **Robert Livingston**, **George Lordi**, **Hugh Lurie**, **Sally Marchesi**, **David Matloff**, **Anoush Miridjanian**, **Richard Moore**, **Norman Moss**, **John Pearce**, **Elaine Pitt**, **Roy Ronke**, **Charles Sachatello**, **Franklin Top**, **John Weil**, **Warren Widmann**, **Murray Wittner** and **John Woodward**.

1966

20th Reunion

by Donald J. Cohen

The Class of 1966 gathered for dinner at the New Haven Lawn Club. **Dr. Alvan Feinstein**, our instructor in physical diagnosis and now a famous epidemiologist/methodologist, was invited as a special guest. He discussed where Yale medicine has been and where it is now going. There was broad agreement that our era was exceptionally fine for clinical education at Yale.

At dinner one highlight was an open discussion in which each member described his life and work, in and out of medicine.

The range of careers and achievements is extraordinary. We also shared information about other classmates, accounting for 34 of them.

Clarence Sasaki and **Donald Cohen** have joined **David Melchinger** as class secretaries. Anyone with information to share or ideas for future reunions should communicate with them.

Seventeen returnees (with spouses and guests) who registered were **Donald Cohen**, **Joseph Donadio**, **Anthony Fappiano**, **Peter Gibbons**, **J. McLeod Griffiss**, **Stuart Hauser**, **William Houghton**, **John Howard**, **Neal Koss**, **Harvey Mann**, **Caroline McCagg**, **William Peterson**, **James Sansing**, **Clarence Sasaki**, **Joel Singer**, **Lawrence Toder** and **Arne Youngberg**.

1971

15th Reunion

by Barbara Kinder

The class reunion dinner was elegantly provided at the home of **John** and **Ellen Ebersole**. Everyone enjoyed the nostalgia, reminiscences and the hilarity. All felt that maturity was progressing satisfactorily for the '71ers.

Attending the reunion were **Ward Cates**, **John Cieply**, **Frederick Cohn**, **David Cossman**, **John Ebersole**, **Leonard Eisenfeld**, **John Foster**, **Richard Kaufman**, **Barbara Kinder**, **William Krinsky**, **David Lippman**, **William Mangione**, **John Mills**, **Richard Moggio**, **John Patti**, **Barry Perlman**, **Michael Piercey**, **Irving Raphael**, **David Rinzler**, **Douglas Schmidt**, **Richard Travers**, **Paul Vignola** and **Albert Weihl**.

1976

10th Reunion

by Robert Taylor

Despite "typical" New Haven weather, the showers did not dampen the festivities as the Class of 1976 gathered for its 10th reunion dinner. **Alfred Axtmeyer** was even forgiven for his photo-finish planning. Mileage Plus awards went to **Jack Tauber** and **Glenn Gorlitsky**, both of whom deserted Los Angeles for the weekend.

Helping make quick work of acres of steamers and gallons of clam chowder were **Florence Comite** and husband, **Henry Cabin '75**, **Todd Estroff**, **Mark Cullen**, **Roger Boshes** and **Dan Schuster**. **Bill Levy** came up from Pennsylvania and was joined by **Dan Rahn** and **Charlie Swenson**.

The weather may have thwarted **Rich Pelker** and **Ken Dobuler** in their attempts to recruit a crew for an America's Cup challenge. Challenging the freeway was strenuous enough for most, including **Sarah Auchincloss**, who arrived from New York, and **Peter Swanson**, who had the same experi-

ence coming from the opposite direction. Soon to be a New Yorker again, **Sid Mandelbaum** nearly accepted **Peter Ting's** offer for a high-performance driving lesson, leaving former mechanics **Chris Golles** and **John Elefteriades** to wonder what happened to Sid's judgment. By the end of the evening however, these and other critical issues had been resolved, and it was unanimously agreed to give it a go for another 10 years.

Twenty-five members of the class attended. They were **Sarah Auchincloss**, **Alfredo Axtmeyer**, **Sharon Bonney**, **Roger Boshes**, **Florence Comite**, **Mark Cullen**, **Kenneth Dobuler**, **John Elefteriades**, **Todd Estroff**, **Ira Gewolb**, **Rose Goldman**, **Glenn Gorlitsky**, **Randall Hawkins**, **Christopher Jolles**, **Richard Kayne**, **William Levy**, **Sid Mandelbaum**, **Larry Markowitz**, **Richard Pelker**, **Daniel Rahn**, **Daniel Schuster**, **Peter Swanson**, **Charlie Swenson**, **Jack Tauber**, **Robert Taylor** and **Peter Ting**.

1981

5th Reunion

by Barbara Ross and Anthony Urbano

The Class of 1981 held its first medical class reunion, and according to the Alumni Office records was numerically and in spirit the most successful 5th reunion ever. Twenty-one classmates, and a total of 32 guests, convened as guests of the School of Medicine for the traditional "Friends of the 50th" dinner. Class officers **Barbara Ross**, secretary, and **Anthony Urbano**, class agent, handled the arrangements.

One fourth of the group assembled for the Friday program, while three-fourths of the group, still involved in graduate training, were able to attend only the dinner Saturday.

It was a wonderful party. We suggest that the Medical Alumni Association mix the old classes with the young next year. It was pleasant and easy to share medical school experiences with graduates 50 years out. We had a wonderful evening seeing one another again. It was great to see everyone happy and, especially, so successful and fulfilled. We hope to see everyone again for our 10th reunion. In reminiscing, those of us who have been away from Yale for some time were surprised to see how much the medical center and New Haven have changed.

After the party, we were guests of **Bob Goldman** and his wife. Bob is at Yale-New Haven Hospital in the section of molecular neurobiology. Present were **Ada Adimora**, **Peter Arvan**, **Cynthia Aten**, **Joan Bengtson**, **Louann Brizendine**, **Jeff Chodakewitz**, **Mariano Garcia**, **Robert Goldman**, **Mark Kasper**, **Robert Kenet**, **Thomas Klevan**, **David Lebwohl**, **Yvette Matory**, **Rose McCann**, **Donald Moore**, **David Paly**, **Robert Portney**, **Patrice Rehm**, **Barbara Ross**, **Dovelet Shashoua** and **Anthony Urbano**.

1985-1986 ALUMNI FUND REPORT

A Message from the Dean

The men and women who have graduated from the Yale School of Medicine are to be commended for their generous contributions to the Medical School Alumni Fund. As you may know, the contributions surpassed the half-million dollar mark—an impressive and record-breaking feat.

As dean of the School of Medicine, I greatly value these contributions and wish to tell you that I have continued to direct all of these unrestricted gifts toward student assistance and the Student Revolving Loan Fund. By offering students this financial assistance we are assured of accepting and

educating the brightest young people—regardless of their economic background—who will become tomorrow's leaders in scientific research and medical care.

In addition, more of our students are electing to take a fifth year to pursue independent research. The alumni's strong support encourages students to expand their educational program and avail themselves of Yale's distinguished educational resources.

Drs. Lowell I. Goodman, Nicholas P.R. Spinelli and other alumni fund-raising leaders have done a superb job in generating

gifts to enlarge the Medical School Alumni Fund. I am extremely pleased and proud of the strong support the medical alumni offer their school.

In the months ahead, I look forward to talking with you about our students, faculty and the many exciting developments within the Yale School of Medicine. Your continued support and generosity make it possible for me to fulfill my role as dean.

Leon E. Rosenberg
Dean

Message from the Medical School Alumni Fund Chairman

Christmas in July!

Ever since I heard the news in July that the 1985-86 total gifts had topped the \$500,000 mark, I've been virtually speechless.

The campaign got off to a good start last fall, and each month seemed to pick up a little more steam. Shortly after Christmas we began to hear rumors about a couple of large gifts and by spring-time everybody knew that we were really on a roll!

Reunion weekend came and went in a blur and a whirl and a kind of numb anticipation. Once or twice I was heard to mumble "wouldn't it really be great if..." Without being able to put my dare-to-dream—big wish into words.

And then the word came through—the generous alumni and friends of the Yale School of Medicine had done themselves proud by assembling the largest largess ever. It will give my successor, Len Kemler, a suitable challenge for the next few years and should provide everyone who participated in the 1985-86 campaign a real warm glow of satisfaction.

Hats off to the Class of 1936 for its bell ringing gift of \$108,906 in celebration of its 50 years of Yale doctorhood.

Hallelujah to the Class of 1946 for the establishment of the Sanford G. Bluestein and Class of 1946 Scholarship Fund. Kudos to the entire crew of class agents who worked their magic ways with suasive and gentle entreaty.

A paean of praise to the entire cast of contributors for their history-making response.

I know that I shall be forever thankful to Yale for taking me under her wing way back in 1946. I am even more grateful for the opportunity I have had as chairman these past five years to express my appreciation.

By the time you read this, another campaign year will be under way. My closing comment will be a hopeful one: let's keep the Medical School Alumni Fund growing and see if we can reach the million dollar mark by 1991.

Lowell I. Goodman

YALE MEDICAL SCHOOL ALUMNI FUND BOARD

Lowell I. Goodman, M.D. '51 *chairman*
J. Roswell Gallagher, M.D. '30
Harry Sherman, M.D. '34
Samuel D. Kushlan, M.D. '35
Malvin White, M.D. '39
R. Leonard Kemler, M.D. '43
Nicholas P.R. Spinelli, M.D. '44
William McClelland, M.D. '47
Harvey L. Young, M.D. '52
Harold Bornstein Jr., M.D. '53
Robert A. Kramer, M.D. '55
William Kissick, M.D. '57
William Waskowitz, M.D. '57
Nicholas Passarelli, M.D. '59
Earl Baker, M.D. '61
David Hill, M.D. '65
Douglas Berv, M.D. '74
O'Dell Owens, M.D. '76

FUND OFFICERS 1985-86

Medical School Alumni Fund

Lowell I. Goodman, M.D. '51, *chairman*
J. Roswell Gallagher, M.D. '30
Bequest and endowment co-chairman
Samuel D. Kushlan, M.D. '35
Bequest and endowment co-chairman,
and chairman, former house staff

Public Health Alumni Fund

Kathleen H. Howe, M.P.H. '56,
chairman

Messages to Graduates and Friends of Epidemiology and Public Health

The Department of Epidemiology and Public Health and its students are very grateful to the 618 alumni who contributed a total of \$37,450 to the Yale Public Health Alumni Fund. The contributions of Kay Howe, the class agents and the telephone squads have been very important in inspiring our alumni in their continuing generosity.

These funds, used for student support, have become increasingly necessary as the support of public health education by the federal government keeps diminishing. Many of our alumni recognize their good fortune in having graduated during times of much more adequate federal support and give so that current students can be spared some of the ever-increasing educational debt burdens. Compared with 10 years ago, the cost of education has more than doubled, and the level of federal support has been reduced to one third.

Jan A.J. Stolwijk
Chairman and Susan Dwight Bliss Professor of Epidemiology and Public Health

There is little I can add to Dr. Stolwijk's message except an expression of my warm gratitude to everyone who participated in this year's Public Health Fund drive. To all those who supported the drive financially; to those who, in addition, gave unselfishly of their time as class agents; to those who joined in camaraderie for two phonathons in the spring, I extend my heartfelt thanks.

Kathleen H. Howe
Chairman
Public Health Alumni Fund

Sanford G. Bluestein and the Class of 1946 Scholarship Fund

Recognizing the importance of an adequate source of financial support for medical students, Sanford G. Bluestein established a special challenge fund on the occasion of the 40th reunion of the Class of 1946.

Dr. Bluestein of Montclair, N.J., provided matching gifts—at nearly two-for-one—for all contributions made to the Medical School Alumni Fund by members of the Class of 1946. This spring, the school established a scholarship fund named to honor this principal donor and the class, with whose generous assistance the new fund was created. The fund will remain a challenge, since members of the Class of 1946 and friends may add to it in the future.

Memorials

Deceased medical alumni and friends may be memorialized by a gift at any time to the Medical School Alumni Fund Endowment in the name and class of the person so honored. The next-of-kin of a deceased medical alumnus/a is advised about this **In Memoriam Program** by a mailing from New Haven some weeks after the School of Medicine receives notification of the death. The letter of information includes a copy of *The Testament of Remembrance* in which the names of all persons so memorialized are listed in the medical section by class, thus establishing a lasting memorial. Donors receive a personal penned note of appreciation from me. Your inquiries and interest are welcome at any time.

Deceased alumni and friends so honored for the first time in 1985-86 were: Eli Rubin '25, Thomas Farthing '32, Francis Guida '34, George Hahn '36, Francis Vose '42, Allan Green '48, Lois Tice '59, Gertrude Spinelli and T. Bcers Townsend.

Richard G. Jordan
Director, In Memoriam Program

Recent Gifts to the Medical School Alumni Fund

Each year, thousands of School of Medicine alumni and friends give to the Alumni Fund to provide support essential to the school's educational strength. Each gift is important, helping to underwrite operating costs while eloquently expressing the generosity of the many individuals who believe in the school's mission. Each has been gratefully received. These three examples represent the commitment and generosity of those who continue to offer that support.

she might otherwise have made. It also enabled her to endow a permanent memorial to her husband while providing scholarship assistance so vital to many students who pursue medical education at Yale.

These gifts, and more than 2,000 other gifts to the Medical School Alumni Fund during the past campaign year, help to ensure the distinction of the School of Medicine's teaching and research programs.

A Gift to Honor the Memory of Parents

During the past fiscal year, on the occasion of this 50th reunion, a donor who prefers to remain anonymous established a charitable gift annuity in memory of his parents, both of whom also were physicians. The \$100,000 gift will endow a special fund that the School of Medicine will use to provide financial assistance to students in the form of scholarships or loans.

Because the annual proceeds from the Medical School Alumni Fund will enable the school to address student needs as they develop, the gift provides important flexibility to the school's financial aid program. That helps balance the operating budget. It is also essential to the quality of the educational process because it provides encouragement and support to new generations of physicians and medical scientists as they prepare for careers in medicine.

Giving Life Insurance to Yale

Earlier this year, an alumna in her early 70s who wishes to remain anonymous made a gift of a fully paid-up \$50,000 life insurance policy to Yale. She made the gift after having made a single policy premium payment of \$15,000. Proceeds from the policy will be used to establish a scholarship in the name of her late husband, who also graduated from the Yale School of Medicine.

The gift of a life insurance policy enabled her to make a much larger gift to Yale than

Medical School Alumni Fund Class Participation

Final Report – 1985-86

YEAR	AGENT	1984-5 TOTAL	1984-5 % PART.	1985-6 TOTAL	1985-6 % PART.
1922 and prior		1,995	—	2,180	—
1923	William Cohen	541	60	553	67
1924	Myron Sallick	5,081	71	—	—
	David M. Raskind	—	—	1,873	67
1925	Alice Whittier	875	67	755	70
1926	Maxwell Bogin	551	71	2,927	83
1927	Harry Zimmerman	1,048	53	1,025	60
1928	Max Alpert	3,555	77	3,569	77
1929	Paul McAlenney	1,192	72	1,341	67
1930	J. Edward Flynn	15,984	60	6,072	70
1931	Michael D'Amico	1,663	83	2,923	79
1932	Henry Brill	1,725	44	2,066	54
1933	Franklin Foote	1,537	63	1,944	73
1934	John Ogilvie	4,071	65	3,898	50
1935	James Haralambie	54,090*	70	12,837	57
1936	George Hahn	5,850	47	108,906*	53
1937	David Dolowitz	753	53	1,540	53
1938	Nelson Ordway	1,215	74	1,065	53
1939	Rebecca Solomon	3,371	62	18,441	67
1940	James Ferguson	10,793*	67	8,453	54
1941	Charles Cheney	2,856	64	3,692*	69
1942	Walter Burdette	1,973	54	2,519	53
1943A	Dorothea Peck	2,995	69	2,908	70
1943B	S. Brownlee Brinkley	3,164	52	2,171	55
1944	Nicholas Spinelli	8,393	61	6,014	76
1945	Richard Breck	24,854*	65	4,025	60
1946A	Charles Judd	4,675	56	38,826	70
1946B	Thomas Whelan	3,084	62	19,274	81
		7,759	58	58,100*	75
1947	William Roy Breg	4,700	59	4,925	59
1948	Paul Koehler	5,407	56	6,067	62
1949	Daniel Elliott	3,785	47	3,970	55
1950	David Frucht	6,781*	71	4,486	76
1951	Lowell Goodman	5,271	49	6,884*	52
1952	Harvey Young	4,310	43	8,432	57
1953	Vincent Gott	3,095	45	3,665	52
1954	John Rose	5,323	67	5,088	68
1955	Robert Kramer	8,841*	62	6,370	60
1956	John Gardner	4,600	36	15,300*	57
1957A	Ronald Fishbein	3,620	59	4,576	61
1957B	Howard Minners	4,055	68	3,545	68
		7,675	48	8,121	64
1958A	Charles Hall	1,570	51	2,660	60
1958B	Paul Rudnick	4,010	56	4,135	65
		5,580	54	6,795	62
1959A	Asa Barnes	3,376	64	9,542	64
1959B	Muriel Wolf	4,679	46	4,355	66
		8,054	55	13,898	65
1960A	Roland Ingram	7,400	67	—	—
	Victor Altshul	—	—	4,399	58
1960B	Thomas Kugelman	11,113	71	4,420	58
		18,213*	69	8,819	58
1961A	Earl Baker	2,625	52	3,625	45
1961B	Anoush Miridjanian	2,310	44	9,375	56
		4,935	48	13,000*	51
1962A	A. Richard Pschirrer	2,865	54	2,300	54
1962B	Frank Hartman	1,475	32	1,800	25
		4,340	43	4,100	40
1963	Craig Llewellyn	10,685	56	7,395	58
1964A	William Houghton	2,100	47	3,285	61
1964B	William Pratt	5,145	76	5,845	82
		7,245	62	9,130	72
1965	David Hill	8,840*	53	5,455	47
1966A	Mary-Alice Houghton	2,580	66	3,500	69
1966B	Henry Mann	1,975	63	1,945	49
		4,555	64	5,445*	59
1967A	James Dowaliby	1,691	47	2,587	64
1967B	Anthony Lovell	3,605	77	4,290	77
		5,296	72	6,877	70
1968A	Frank Lucente	2,701	47	3,077	45
1968B	Donald Lyman	1,800	51	2,490	49
		4,501	49	5,567	47
1969	Lee Jampol	5,872	52	6,516	60
1970	James Missett	3,796*	42	3,526	45
1971A	John Cieply	1,942	40	4,691	61
1971B	Barbara Kinder	3,690	63	5,720	60
		5,632	54	10,411*	61

YEAR	AGENT	1984-5 TOTAL	1984-5 % PART.	1985-6 TOTAL	1985-6 % PART.
1972	Paul Lucky	4,143	46	4,983	41
1973A	David Bailey	1,050	39	—	—
	Lee Goldman	—	—	1,170	42
1973B	David Johnson	1,135	36	—	—
	John McQuade	—	—	848	32
1973C	Jerrold Rosenbaum	1,120	45	970	38
		3,305	40	2,988	38
1974A	Amy Schecter	1,000	38	1,645	50
1974B	Robert Schecter	850	26	725	23
		1,850	22	2,370	37
1975A	Daniel Passeri	1,450	35	850	29
1975B	Mary Jane Minkin	1,135	19	865	16
		2,585	27	1,715	23
1976	Robert Taylor	2,116	30	3,370*	39
1977A	David Kreis	600	21	—	—
	Attilio Granata	—	—	760	29
1977B	Ronald Vender	820	38	590	33
		1,420	29	1,350	31
1978A	Duke Cameron	1,360	26	1,105	26
1978B	Seth Powsner	105	14	150	21
		—	—	—	—
1978C	Thomas Smith	110	20	265	47
		1,575	23	1,520	29
1979A	Jeffrey Kaine	266	23	391	28
1979B	Laurie Smaldone	445	21	—	—
	Cynthia Sherman	—	—	490	19
		711	22	881	23
1980A	Eduardo Alfonso	610	36	525	33
1980B	Mark Bernhardt	655	33	—	—
	Cesar Molina	—	—	345	19
		1,265*	34	870	26
1981	Anthony Urbano	575	17	1,310*	24
1982A	Muriel Cyrus	65	9	335	13
1982B	Jed Gorlin	135	27	110	23
1982C	Stephanie Wolf-Rosenbaum	115	17	235	36
		315	16	680	21
1983A	Michael Tom	170	10	175	11
1983B	David Schwartz	197	23	360	24
		367	76	535	16
1984A	David Astrachan	140	12	—	—
	Hingge Hsu	—	—	210	14
1984B	Jay Kostman	121	17	115	9
		261	14	325	11
1985A	Robert Higgins	—	—	1,355	83
1985B	Fred Santoro	—	—	585	100
1985C	Javier Vizoso	—	—	359	100
		—	—	2,299	97

* Reunion

Medical School Alumni Fund

	1984-85				1985-86			
	NUMBER SOLI- CITED	NUMBER CONTRI- BUTORS	PERCENT PARTICI- PATION	TOTAL	NUMBER SOLI- CITED	NUMBER CONTRI- BUTORS	PERCENT PARTICI- PATION	TOTAL
Alumni	3,509	1,613	46	\$346,006*	3,583	1,773	50	\$467,234°
Former House Staff	1,004	168	17	9,560	1,002	181	18	11,821
Parents Friends	366	60	16	11,787	432	79	18	8,558
Interest and Miscellaneous Gifts	—	—	—	13,464	—	—	—	14,532
TOTAL	4,879	1,841	38	\$380,818	5,017	2,035	41	\$502,145

* Includes \$67,373 for 3 life income gifts.

° Includes \$113,975 in life income gifts.

Public Health Alumni Fund Class Participation

Final Report – 1985-86

YEAR	AGENT	1984-5 TOTAL	1984-5 % PART.	1985-6 TOTAL	1985-6 % PART.
1923-1941	-----	5,770	—	2,159	—
1942	Eric Mood	460	80	420	60
1943	Eric Mood	460	45	90	27
1944	Eric Mood	260	33	275	22
1945	-----	110	43	135	50
1946	-----	80	33	75	29
1947	-----	220	35	330	48
1948	Elizabeth Robinton	1,115	50	675	44
1949	Elizabeth Robinton	495	36	465	33
1950	Eric Mood	975	62	685	43
1951	Norton Chaucer	645	38	600	50
1952	Yolande Lyon	870	33	695	41
1953	Milton Sisselman	730	39	810	52
1954	Eric Mood	45	13	85	21
1955	Frances Ogasawara	655	50	485	44
1956	David Boyd	545	29	672	50
1957	Edward DeLouise	525	57	705	52
1958	Thomas Flynn	700	29	—	—
	Philip Hallen	—	—	1,175	29
1959	Dorothy Wilson	605	40	430	38
1960	Else Schulze	195	25	—	—
	R. John C. Pearson	—	—	1,159	43
1961	William Slivka	655	50	1,075	40
1962	A. Kay Keiser	75	20	—	—
	Thomas R. Mayhugh	—	—	175	30
1963	David Dolins	850	43	785	38
1964	Estelle Siker	1,220	42	640	33
1965	H. Patterson Harris	1,885	50	600	31
1966	Allen Cohen	220	18	280	27
1967	James Malloy	1,525	41	1,185	32
1968	Arnold Saslow	1,805	45	1,705	51
1969	Samuel Korper	1,035	36	955	32
1970	Susan Balter	1,345	31	1,533	31
1971	John Bihldorff	2,025	49	1,803	53
1972	Dorothy Lewis	485	30	385	17
1973	Judith Beatrice	1,495	29	1,160	31
1974A	Thomas Benoit	320	35	290	26
1974B	Karen Lindfors	535	44	475	40
1975	Linda Broker	1,667	41	1,602	35
1976	Elaine Anderson	1,690	35	1,140	30
1977	Dorothy Rice	1,380	33	918	29
1978	Ann Freedman	1,759	39	1,123	29
1979A	Catherine H. Norton	—	—	535	25
1979B	Ralph Tartaglione	1,505	32	460	38
1980	Christina Quinn	1,155	37	1,050	27
1981A	Diane Goren	615	26	—	—
	Angelo DeVita	—	—	745	27
1981B	Barbara Gaugler	240	32	490	36
1982A	Michele Visconti	265	14	—	—
	Constance M. Jarowey	—	—	460	18
1982B	Amy Wilson	445	39	—	—
	Jean L. Milton	—	—	290	30
1983A	Jeffrey Hughes	1,260	24	315	25
1983B	Mary Beth McNerney	175	16	190	22
1984A	Anthony Alberg	110	17	215	22
1984B	Leslie A. Balch	80	10	50	5
1985A	Joan M. Cleary	—	—	268	19
1985B	Katherine Santella	—	—	180	11
	ALUMNI/AE TOTALS	42,590	—	35,201	—
	Interest/misc. gifts	2,396	—	2,339	—
	Baumgartner Match	—	—	—	—
	TOTAL	44,986	35%	37,540	32%

Contributors to the Medical School Alumni Fund 1985-86

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1908	Tony L. Rakieten*		John H. Wentworth	Dorothea R. Peck
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1912	Russell B. Scobie	George A. Carden, Jr.		Earl J. Rhodes
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	Lewis Dickar	Samuel Zelman		
1922	Vincent A. Doroszka			1943 December
Maurice Grozin*	Knox H. Finley	1936		Richard N. Abbott
Chester E. Hurwitz*	J. Edward Flynn	Daniel Bergsma		John R. Almklov
Helen P. Langner	J. Roswell Gallagher	George Henderson Brown		David G. Borden
	James C. Hart	Dean Lester W. Burket		Robert F. Bradley
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Howard A. Wood	James W. Reed	Wilbur D. Johnston		1944
	Abraham J. Schechter	Alfred E. King		Carl Andrews
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Louis M. D'Esopo	Jack Greenberg	1939		Haynes W. Sheppard
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John M. Russell*	Francis M. Woods	Nathaniel Kenigsberg		1945
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Lewis A. Scheuer	1934	Margaret A. Lennox		A. John Anlyan
	Leona Baumgartner	Ward J. McFarland		Albert S. Atwood
1929	Frederick Beck	James Peter Murphy		Frederic M. Blodgett
James Rae Arneill, Jr.	James F. Blades	Russell Nahigian		Richard W. Breck
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Olive Gates	Herbert C. Miller	Bradford Simmons		Jay B. Cohn
George S. Goldman	John B. Ogilvie	Rebecca Z. Solomon		
Alexander O. Haft*				
*Deceased	*Deceased			

Thomas P. Cotter
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Raymond A. Gagliardi
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Gove Hambridge, Jr.
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Hans R. Huessy
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William E. Laupus
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Garner L. Lewis
Mark McD Lindsey
Charles E. McLean
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Richard M. Peters
Elliot R. Reiner
Charles E. Sherwood
Joseph R. Stanton
Kenneth C. Steele

1946

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Franklin C. Behrle
Frederick C. Biehuse
Sanford G. Bluestein
Linus W. Cave
Thomas J. Coleman
Fred C. Collier
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Hugh R. Williams
Elihu S. Wing, Jr.

1947

George R. Barnes, Jr.
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William Roy Breg, Jr.
Rocco A. Calandrucchio
John L. Cannon
M. Richard Carlin
Charles R. Cavanagh, Jr.
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Amos I. Chernoff
William F. Collins, Jr.
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Franklin Harold Epstein
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Robert J. Kerin
Don F. Kimmerling
Richard P. Levy
Brock Lynch
Victor A. Machcinski

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Robert F. Newton
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Lawrence C. Perry
Philip H. Philbin
Olive E. Pitkin
Irving Rudman
Alvin Somborg
Igor Tamm
Patricia B. Tudbury
Ellis J. Van Slyck
M. Henry Williams, Jr.
Sumner Root Ziegler

1948

Russell J. Barnett
George F. Batten
Edith M. Beck
Allyn G. Bridge
Lee Buckingham Brown
Richard Steele Buker, Jr.
Arthur L. Coleman, Jr.
Ruth E. Cortell
G. Robert Downie
Marie C. Duncan
Elizabeth Fuller Elsner
Boy Frame
Emil Frei 3d
Julian Frieden
Allan Green*
B. Herold Griffith
Sylvia Preston Griffiths
Richard M. Hannah
Ross R. Harcus
W. Rayner Johnson
Paul B. Koehler
Robert E. Lempe
C. Arden Miller
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Richard C. Peterson
George P. Rostel
Benjamin F. Rush, Jr.
Gabriel A. Saviano*
Jerome H. Shapiro
Jessie Parkinson Spear
Anne G. St. Goar
Paul Talalay
Wallace W. Turner
Paul Woodbury Weld

1949

George R. Anderson
William G. Anlyan
Alfred E. Bacon, Jr.
Henry W. Baird III
Jonathan S. Bishop
Thomas L. Chiffelle
Mary Pucci Couchman
Phillip G. Couchman
N. Joel Ehrenkranz
Daniel W. Elliott
Gunnar O. Eng
Albert A. Fisk
Paul S. Goldstein
Eleanora C. Gordon
Frederic W. Gray
Jackson Harris
Robert C. Howard
Benjamin A. Johnson
Orval I. McKay
Timothy F. Nolan, Jr.
Julian I. Pichel
Edmund L. Piper
Charles L. Rennell, Jr.
Murray Z. Rosenberg
Daniel Rudman
R. David Sudarsky
Martha Vaughan
Mary-Agnes P. Wine

1950

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Lyal D. Asay
Malcolm A. Bagshaw
John E. Borowy
William H. Bucher
Alvin Davis
Claude W. Delia
Kent Ellis
Thomas J. Ferraro, Jr.

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Janus C. Lindner
Margaret S. Lyman
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Harry McClelland*
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Orlando J. Miller
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Cynthia B. Shimm
Jane B. Shumway
Martin Smith*
John S. Strauss
Robert H. Sturman

1951

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W. Robert Adams
Thomas T. Amatruda, Jr.
Stanley D. Ardell
Muriel H. Bagshaw
Eleanor Clay Bigley
John J. Egan
Daniel X. Freedman
Sidney S. Furst
Joseph M. Garland
Ralph M. Gofstein
Lowell I. Goodman
John T. Groel
Robert N. Hamburger
Carroll K. Iverson
William Kiekhof
Jocelyn S. Malkin
John J. McGarry
Paul D. Millikin
Walter S. Morgan
Albert R. Mowlem
Richard S. Munford
Charles A. Nugent, Jr.
Gerard B. Odell
Arthur A. Pava
Majie S. Potsaid
William F. Stephenson
William Taylor*

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Willard R. Centerwall
Philip Gardner Deane
Raymond S. Duff
James R. Durham
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Richard D. Floyd
Robert P. Gerety
Thomas S. Kelly
James Kent Luce
Wilbur P. McNulty, Jr.
N. Karle Mottet
Robert F. Owen
Sidney Nathan Paly
Robert G. Petersdorf
Leon A. Phillips
John Macklin Roberts
Leonard Rush
Mary Wheatland Schley
Donald H. Schultz
Robert B. Schultz
Virginia Lee Swanson
John H. Wagner, Jr.
Doris L. Wethers
John L. Wolff
Harvey L. Young
Robert Zeppa

1953

Claude Bloch
Harold D. Bornstein, Jr.
William R. Chaffee
Allen Chetrick
Rex B. Conn
James P. Dunn
Donnell Dencil Etwiler
Thomas O. Gentsch

Vincent Lynn Gott
Robert Emanuel Hamlisch
George L. Hoffmann
David Purdy Holman
Peter Biggs Hukill
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Hildegard Mueller Leslie
Preston Lee Leslie
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Jose Ramirez-Rivera
John C. Roberts
Barbara F. Rosenberg
Irwin K. Rosenberg
Virginia C. Saft
Howard Willis Smith
Ora K. Smith
Lynn Cortland Stoker
William Junior Vandervort
William August Wilson

1954

Frank P. Berg
Richard J. Bouchard
George N. Bowers, Jr.
Ralph K. Campbell
John R. Cole
Alan H. Covey
Arthur C. Crovatto
Donald D. Davis
Frederick J. Fiederlein
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Edward J. Gerety
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Earl D. Rees
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Robert L. Stein
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1955

John B. Atwater
John C. Bailar III
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William J. Waskowitz

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Peter Alfred Benson
Gerard N. Burrow
Benjamin Bursten
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Robert V. Diserens
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Joseph P. Wierzbinski 3d
John Patrick Wood
Pauline B. Wood

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Paul Jay Friedman
Robert L. Fisher
Paul Jay Friedman
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Gerald B. Gordon
W. Keith Hadley
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C. Richard Hinckley
Leonard Inker
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Edvardas Kaminskas
David W. Kingsbury

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Muriel D. Wolf

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Ormond V. Brody
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David Dunn*
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Thomas L. Lincoln
Edward Longo
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Richard G. Morrill
Allan W. Newcomb
Buford L. Nichols, Jr.
Fred Palace
Albert Matthew Ross
John J. Schrogie
Fred Stargardter
Constantine M. Voyagis
Robert C. Wallach
May Yung-Fun Woo Wang
Ronald A. Yankee

1961

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Earl L. Baker
Albert A. Bechtoldt, Jr.
Robert S. Briggs
David William Brook
Paul David Deiter
Ralph J. DePonte
Ronald A. Dierwechter
Jon Dudley Dorman
John E. Fenn
Norbert Fleisig
Edward C. Gilbert
Louis D. Hunt
Joseph E. Jasaitis
Richard L. Keefe
Robert Isaac Levy
Hugh James Lurie
David B. Matloff
Anoush Miridianian
Richard Allen Moore
Norman I. Moss

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Warren D. Widmann
Murray Wittner
John R. Woodward

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Charles B. Anderson
Frederic P. Anderson
Dean E. Burget, Jr.
Frederic K. Cantor
Ray Allen Carlsen
Oliver Townsend Dann
Arnold Joel Eisenfeld
I. Bruce Elfenbein
John W. Foreman
Stephen John Fricker
Roger P. Friedenthal
John N. German
John T. Harrington
Patricia C. Hassakis
J. Dale Howe
Victor W. Hurst III
Gary Jacobson
Glenn L. Kelly
David E. Knoop
John P. Lynch
Stanley E. Matyszewski
William A. Miller
Malcolm S. Mitchell
A. Richard Pschirrer
James A. E. Spencer
H. Oliver Stoutland
Seth Thaler
Sherwood Waldron Jr.

1963

Arthur Howard Ackerman
Miguel R. Alonso
V. Richard Back
Charles W. Carl, Jr.
Theodore J. Chu
Gordon S. Cohen
John E. Conte, Jr.
David F. Cross
James S. Dalsimer
Dudley Seth Danoff
Andrew Edin
B. Allen Flaxman
David H. Fram
William T. Friedewald
David H. Fulmer
Alexander R. Gaudio
Vincent F. Geremia, Jr.
Lee D. Goldberg
Peter B. Gregory
Benjamin Keith Harris
Brian C. Judd
Constantine D. Kyropoulos
William B. Lehmann
Craig H. Llewellyn
Edward G. Lund, Jr.
Sally Lockwood Marchesi
Vincent T. Marchesi
Robert H. Margulis
Herbert Meltzer
Robert E. Mueller
Sheldon R. Pinnell
Jay M. Pomerantz
Gene R. Profant
Berkely L. Rich
Lee Bland Talner
Peter V. Tishler
Lawrence Tremonti
Gary Van Galder
Peter G. Weiner
Jerome Allen Winer
Alfred J. Wise

1964

William A. Alonso
Berton W. Ashman

Sidney M. Baker
Leland S. Berger
Philip Blume
Anthony J. Bravo
Robert M. Briggs
Joseph F. J. Curi
Mary V. Digangi
Alfonso Esguerra
Anthony Ferrante
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Peter A. Gross
John F. B. Haney
Gene I. Higashi
Richard Hockman
Lawrence Horwitz
William J. Houghton
Sue Kimm
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Richard V. Lee
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William B. Pratt
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Jonathan J. Russ
Saul M. Schanberg
Robert L. Shelton
Major Tadashi Shimada
Diane Shrier
Donald G. Skinner
A. Thomas Snoke
Richard C. Stillman
Lyll C. Stulp II
Sigrid L. Tishler
Charles Vogel
Stephen Waltman
Oscar Wand

1965

Susan A. Aoki
Thomas T. Aoki
John H. M. Austin
Paul Balter
Victor J. Burner
Thomas B. Caldwell III
David G. Campbell
Robert M. Cohn
Michael J. Cummings
Phyllis Hurwitz Duvdevani
David S. Fedson
Robert I. Finkel
Gary Lawrence Gross
Robert Andre Gryboski
Reid R. Heffner, Jr.
David A. Hill
Carl E. Hunt
Ronald J. Karpick
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Mark W. Lischner
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Robert L. Pickens
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John H. Seashore
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Charles J. Semonsky
David M. Shames
David P. Simmons
Harlan Spitz
Alan William Stone
Bert Yuan-Shu Wong

1966

Benjamin F. Balme
John D. Baxter
Frank C. Bell
Philip Bernstein

James Edward Brown
Eugene Patrick Cassidy
Joseph A. Donadio
Robert E. Dragon
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Jared M. Emery
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1967

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Gary C. Burget
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Robert A. Vollero
Joseph F. Walter
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Redford B. Williams, Jr.
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Peter M. Zeman

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Gerald L. Springer
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N. Roger Cooke
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Marian H. Block
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1972

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Lawrence P. Temkin
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David Nelson Bailey
Richard P. Bozof
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James N. Campbell
Marvin M. Chassin
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Suzanne M. Matsui
Cesar R. Molina
Jane G. Schweitzer
John A. Selling
Marcia R. Taylor
Walter H. Williams

1981

Cynthia B. Aten
Alicia Barela
Susan Burdette

Stephen Wilson Burgos
 Patricia A. Burke
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 Louis Essandoh
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 Bernard H. P. Shen
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 John C. Wong

1982

Sylvia R. Beck
 Rise Maura Chait
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 Henry J. Stern
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 Elena Citkowitz
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 Adam Lerner
 John H. Neal
 Dan A. Oren
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 Leonard B. Saltz
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 Pamela Leslie Zeitlin

1984

Charles S. Abrams
 David I. Astrachan
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 Barbara Ann Coda
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 Paul B. Rothman
 Andrew L. Sternlicht

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David M. Alwin
 Brian H. Annex
 Robert A. Aronowitz
 Jaime I. Arroyo
 Michael Behrman
 Barry D. Bergquist
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 Vance Brown
 JoAnne Burger
 Jennifer I. Calagan
 Jane I. Carter
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*Deceased

Alice S. Y. Chi
 Terri L. Cornelison
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 Bryan DeSouza
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 William D. Gaillard
 Richard Bruce Garber
 Michael W. Gilbert
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 Marie Hobart
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 Eric Murname Poeschia
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 Joshua David Sparrow
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 Samuel S. Herman

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 Robert L. Johnson
 Leonard S. Krassner
 Leonard F. Menczer
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 Angelica Z. Syseskey
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 Lois Blatchford Fuller
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Josephine Blanchett
 Helen H. Davenport
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 Lowell Stern Levin
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Shan Cretin
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Evarists Berzine
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Evelyn J. Bromet
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William Cates Jr.
Katrina H. Clark
John A. Daeley
Harvey Fernbach
William P. Ferretti
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Spring 1987

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COVER: This woodcut from Bartholomaeus Anglicus, *Le Proprietaire deschose*, by Nicolas Conteau, Paris, 1539, depicts the ages of man. The book is part of the Yale School of Medicine Historical Library collection.

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DEAN: COMMITTED, BULLISH ON YALE SCHOOL OF MEDICINE

Editor's note: Shortly after Dr. Leon E. Rosenberg became Dean of the Yale School of Medicine in July 1984, he addressed the faculty on the "state of the school." Now, YALE MEDICINE has asked Dean Rosenberg to pause and make some observations on the school today for alumni.

YALE MEDICINE: *You have served as Dean of the Yale School of Medicine for nearly three years. In retrospect, what have been the greatest "challenges for change?"*

DEAN: The greatest challenges the school has faced during the past 2½ years have related to the clinical departments. That is not to say that the school can take for granted its basic science departments where we are strong across the board, and second to none. This strength must be preserved and enhanced, while we address a number of challenges in the clinical departments.

First and foremost of these is the recruitment of new chairmen. In 2½ years, we have recruited new chairmen in dermatology, neurology, surgery, psychiatry and orthopaedics. We are currently seeking new chairmen in internal medicine, pediatrics and diagnostic radiology. Thus, within the five-year term of my deanship, most of the clinical department chairmanships will have turned over.

This represents a profound change in the school's leadership and a profound challenge to the administration. I have spent more time on these recruitment efforts than on any other single item of the school's agenda; that is as it should be because our chairmen set the tone, shape the faculty and fashion the priorities for their respective areas.

But the challenge for change in clinical medicine goes beyond the recruitment of new chairmen. The entire fabric of clinical medicine in the United States is undergoing an upheaval, and academic medical centers are certainly not insulated from the tumult.

Our country has become enormously worried about health care costs; this has resulted in an increasingly tight embrace of medicine by laws affecting every phase of clinical practice. For example, enormous pressures exist to take care of patients as outpatients rather than in hospitals, yet hospitalized patients have been the bulwark of clinical teaching programs in the United States for the last 40 years.

We must find new settings in which to educate third- and fourth-year students; such settings include health maintenance organizations (HMOs) in the city of New Haven (such as the Yale Health Plan and the Community Health Care Plan), private offices of physicians who have clinical faculty appointments in the school, and the hospitals in Connecticut with which we have affiliation agreements.

Another major issue we've been addressing concerns the

need to increase the commitment of our full-time faculty to deliver outstanding tertiary care. I wish to see the Yale-New Haven Medical Center become the pre-eminent medical center between New York and Boston. Only in this way will we bring research and teaching in the clinical departments to the high level currently achieved in our basic science departments.

Finally, we must redouble our efforts to educate humane, ethical, responsible physicians whose primary commitment will be to serve the public interest—not their own private interests or those of organized medicine. Only in this way will we reverse the national trend to humble physicians.

YALE MEDICINE: *We have heard controversial reports about the national health manpower situation and the "doctor glut." Does the School of Medicine have a position on this issue, and does the school contemplate changes in class size?*

DEAN: No medical school can fail to be concerned about the oversupply of physicians and the decreasing number of young people who are applying to medical schools. In the past seven years, we have seen a 20 percent fall in the number of applicants to the Yale School of Medicine. Therefore, we are experiencing—just as every other medical school is—the realization that young people today do not see medicine as attractive a career as they once did.

The question facing the Yale School of Medicine is whether this demographic information should push us to decrease our class size. Even though the total number of applicants has decreased, we still receive more than 2,300 applications for 102 places in our incoming class, and we are still attracting as outstanding a group of future physicians as we ever have; that is, we've seen no fall off in the quality of our students. For that reason, we do not believe that we must reduce class size in order to maintain quality standards.

Nonetheless, there is some pressure to reduce class size in order to demonstrate in the only clear way we can that we are concerned about an oversupply of physicians. For the present, we have decided not to change class size simply to send a "signal."

YALE MEDICINE: *Have medical students and their academic qualifications and career goals changed perceptibly during the past 25 or 30 years?*

DEAN: As I just said, we have not seen less intelligent, humane or committed people going into medicine, but certainly career goals have changed.

More of our students are interested in careers in such specialties as anesthesiology, ophthalmology, radiology and orthopedic surgery; fewer of our graduates are interested in primary care fields, such as internal medicine and obstetrics. In part, career decisions reflect economic opportunities and the cost of medical education.

Eighty percent of our students graduate with significant debts—the average debt currently being \$39,000. It seems unavoidable that this amount of indebtedness already has affected career plans of some students; and if indebtedness increases, it will affect career plans of even more students. That is why we are working so hard to provide more loan and scholarship assistance to students.

YALE MEDICINE: *Would you please comment on the increasing number of women and minority group students in the School of Medicine today and their experience here?*

DEAN: The medical school has been attracting more and more qualified women; and they now comprise 30-40 percent of the incoming class annually, and this has been the case for the past five years. In my judgment, it will not be long before 50 percent of our student body will be women, and then the gender issue in medical school enrollment will become moot.

Approximately 15 percent of our class is composed of fine

students from minority backgrounds: black, Hispanic and Oriental. We work hard to find and recruit outstanding members of minority groups because the national pool is small and competition is keen. It is very important to our country that an increasing number of black and Hispanic physicians be trained; Yale is committed to this effort.

YALE MEDICINE: *The senior thesis has been a Yale tradition. Is the discipline of research today just as strong in Yale's training of medical students? If so, could you cite some examples.*

DEAN: The commitment to acquire and disseminate new information remains as central a mission to the School of Medicine as it has ever been. That commitment is present at every level of the institution, including the medical students.

We are proud of our tradition of requiring a thesis for every graduate of the School of Medicine. We are making every effort to strengthen the thesis requirement. Recently, a thesis subcommittee of the curriculum committee has been appointed to monitor and administer the thesis program. This year, for the first time, student research day will include a large poster session for all interested students as well as the traditional platform presentations by prize-winning ones.

We are also trying to identify more funds to support students



Speaking at the Magnetic Resonance Center dedication in mid-November, Dean Leon E. Rosenberg said the new technology will be used "to answer fundamental biologic questions, as well as to provide new diagnostic capabilities."

KENNETH ABBOTT

doing research. In addition to providing summer stipends for an increasingly large number of students, we recently have obtained funds which enable 12-14 students annually to take a full year out of the traditional four-year curriculum in order to do research with a faculty member in the School of Medicine. We have also obtained a training grant from the National Institutes of Health to support student research.

YALE MEDICINE: *Many exciting developments in the biomedical sciences are occurring very rapidly. In what areas are Yale medical researchers making contributions?*

DEAN: If I were to answer that question in detail, it would take a tome to do so. We have outstanding researchers in many areas of the basic and clinical sciences.

Perhaps it is more appropriate for us to ask if there are areas where the Yale School of Medicine is not as strongly represented as it would like to be in research. I can think of a few such areas, and we must do something about them. We are not as prominent in AIDS research as we should be, nor are we as strong in molecular oncology or microbiology. These and other areas will be emphasized in faculty recruitment efforts.

YALE MEDICINE: *The medical school has several construction projects in various stages. Could you give us a brief update on them?*

DEAN: It's nice to be able to talk about buildings that are going up because they signal a sense of growth and vitality.

- We have just dedicated the Magnetic Resonance Center, a joint undertaking of the School of Medicine and Yale-New Haven Hospital. I believe it is the finest center of its kind currently in the country today.
- We are two-thirds of the way toward completing the Yale Clinic Building, which will be devoted to the full-time faculty's efforts in treating ambulatory patients. Before the end of this calendar year, that 90,000-square foot building will be in full operation. Finally, management of ambulatory patients by full-time faculty physicians will be coordinated in a group-practice setting worthy of this institution.
- Demolition is about to begin in preparation for construction of the new Yale Psychiatric Institute. We hope to have the YPI back on campus within 24 months, and that will be an exciting addition to both the clinical care and the educational components in psychiatry at the school.
- Planning for the new library addition has advanced. We anticipate that during the next three months ground will be broken for this major expansion of the library, thanks to the magnificent gift from Betsey Cushing Whitney and her family.

By 1989, the medical school will have a vanguard library with expanded reading room facilities and significantly increased amount of computer capability for information retrieval. This will provide us with a library commensurate with the skill and aspirations of the school's scholars.

- Finally, and as close to my heart as anything in my deanship, is the Center for Molecular Medicine, a joint enterprise of the School of Medicine and the Howard Hughes Medical Institute. We hope to break ground in November 1987 for that building, which will be located immediately adjacent to the

Hope Building along Congress Avenue. The building will consist of four floors of new research laboratories, each organized along programmatic themes. One program will be directed toward molecular genetics, a second toward molecular neurobiology, a third toward molecular oncology, and a fourth program has yet to be named. The genetics and neurobiology programs will be supported by the Howard Hughes Medical Institute; the other two will be supported by Yale-acquired funds.

YALE MEDICINE: *Along with the Medical School Development Office, you have been working diligently to meet the goals of the Capital Campaign. What have been some of the greatest successes during the campaign?*

DEAN: Within a 2½-year period, we have come well more than halfway toward the campaign's stated goal of raising \$125 million for the School of Medicine. At latest count pledges and receipts total almost exactly \$100 million.

Among the largest gifts have been those from Betsey Whitney, the Howard Hughes Medical Institute, Irving and Neison Harris and Mr. and Mrs. Adrian C. Israel. It is heartening to see the number of friends, alumni and organizations that have contributed to the campaign.

This support makes us feel cautiously optimistic that we can achieve the goal of raising \$125 million. The acquisition of those funds is vital to the school's remaining one of the truly great, research-intensive schools of medicine in the world. I hope the alumni know how much we need to strengthen the financial base of the school. The Yale School of Medicine has the smallest endowment of the top 10 medical schools in the United States; that must be addressed.

In fact, endowment funds have been the most difficult to raise thus far. We will almost certainly meet our goals in acquiring funds for buildings and for research programs, but we are only about 25 percent of the way toward meeting our goal in identifying new endowment funds. This must be the major emphasis for the remainder of the campaign.

YALE MEDICINE: *In conclusion, do you have any other general observations about the state of the Yale University School of Medicine?*

DEAN: When I took this job, I was bullish on the School of Medicine and on Yale University. I may be a little sadder and wiser than I was then, but my commitment and my bullishness have not diminished a bit. I continue to believe that this is a great school in a great university, and I continue to believe in medicine, despite the many challenges facing it. We must aspire to be even greater as we address the enormous opportunities and equally enormous problems in our field—which, I hope, is still a calling.

YALE RESEARCHERS LOOK BEYOND CLICHES OF AGING

by Phyllis Joffe

It's a fact: more of us are getting—and staying—old than ever before.

Half of all human beings who have ever lived are now alive. According to the U.S. Bureau of the Census, an estimated 35 million Americans will be over 65 by the year 2000. Between 2000 and 2050, as "baby boomers" enter their mid-60s, the elderly population is expected to nearly double to include more than 22 percent of the total U.S. population.

Not only has life expectancy increased, but people also are living healthier as they age. Medical researchers who once believed chronic illnesses and disabilities to be a normal and irreversible part of the aging process now know that with prevention and treatment, people can live rich, active lives well into their 80s and beyond.

At Yale, gerontology is a multidisciplinary concern. Throughout the School of Medicine, researchers are challenging stereotypes of aging and making profound new discoveries that hold the promise of improved health care and quality of life for all. What follows is only a sample of that work.

BASELINE EPIDEMIOLOGY

Although the elder population explosion began in the mid-1960s, it didn't capture the attention of the public—and the medical establishment—until several years later.

"Most epidemiologic studies, until very recently, have characteristically looked at people from 18 through 65," says Dr. Adrian M. Ostfeld, the Anna M. R. Lauder Professor of Epidemiology and Public Health at the School of Medicine. Dr. Ostfeld says interest shifted when the 1970 census data showed a growing population of elders and a rapid drop in deaths from heart disease and stroke.

In 1971, Dr. Ostfeld and Stanislav V. Kasl, Ph.D., professor of epidemiology, received major funding from the National Institute on Aging to study the health effects of forcing elderly people to move from their homes.

Now, Dr. Ostfeld and Lisa F. Berkman, Ph.D., associate professor of epidemiology, are co-principal investigators for the Yale Health and Aging Project, part of an NIA benchmark study entitled "Established Populations for Epidemiologic Studies of the Elderly" (EPESE). NIA published the first phase of the longitudinal study, the *Resource Data Book*, last December.

Under the direction of Dr. Ostfeld and Professor Berkman, School of Medicine researchers have gathered baseline data

since 1982 on more than 2,800 New Haven residents, ages 65 and older. Similar work has taken place in East Boston, Mass.; Iowa and Washington Counties, Iowa; and Durham, N.C. The Yale Health and Aging Project received \$2.5 million for the New Haven research. The entire national project is funded until 1988.

The EPESE project is expected to identify predictors of mortality, hospitalization and placement in long-term care facilities, and it will study risk factors for disability and chronic diseases in the elderly.

"The data book enables us to move from caricature, conjecture and stereotype to having hard information," says Dr. Ostfeld. "It provides us with baseline characteristics of some of the major economic and social problems of older people.... It will enable us to determine how disability, disease, and social and economic characteristics interact."

Dr. Ostfeld believes that the EPESE data also will prove valuable in the development of future public policy and services. "I anticipate that relatively soon, we'll be developing publications on what factors cause people to enter nursing homes and how we might plan wisely for their rate of entry. When we begin to understand more about how ways of living influence survival, we will be in a position to develop more rational programs to help older people prolong their lives."

Unlike most prior studies on aging, EPESE is community-based. This distinction is important, says Professor Berkman. "Most previous studies have been on very selected popula-



Dr. Adrian M. Ostfeld, the Anna M.R. Lauder Professor of Epidemiology and Public Health, and Lisa R. Berkman, Ph.D., associate professor of epidemiology, are principal co-investigators on a benchmark NIA study on aging. Since 1982, they have gathered baseline data on 2,800 elderly New Haven residents. The data disputes many stereotypes of old age.

Phyllis Joffe is writer, broadcast specialist for the School of Medicine Office of Public Information.

tions—people in nursing homes, people who are volunteers or are highly successful. But until now, we've had very little idea about how most of the people who are over 65 are living.

"When you look at older people who are living in a community, some of the stereotypes change. For instance, most of the people we interviewed maintained high levels of functioning, most led independent lives, most were able to take care of themselves, and most were able to be quite physically active and mentally alert."

For example, 90 percent of those studied in New Haven were able to walk and bathe without assistance. Twenty percent required help getting from a bed to a chair, getting out of bed or dressing, whereas only about two percent needed help in toileting, grooming and eating.

Even when disabilities exist, they may not be permanent. According to the Yale team, some people who were functionally disabled when first interviewed at baseline in 1982 had recovered from their disabilities a year later.

Says Professor Berkman: "This stands in contrast to the kinds of studies that have been done before where you only look at people on this kind of inevitable, downward course. So while people do change, and obviously people do change for the worse, they also change for the better."

Whereas nursing home studies have tended to conclude that "older people are frail and unable to maintain many of their abilities over a long time," she says, the NIA data indicates that this is only true for some large segment of those over 85 in the population. Rather, elders are a far more heterogeneous and productive group than stereotypes indicate.

"By and large," says Dr. Ostfeld, "people in their late 60s, early and middle 70s, are able to attend all the meetings, do all the work, stay in touch and be completely responsible in getting any kind of job done that doesn't require a great deal of muscle. From the middle 70s to the middle 80s, people are able to do a reasonable day's work at most things, most of the time."

Professor Berkman and Dr. Ostfeld say they hope the EPESE data will help health care professionals look beyond accepted stereotypes of aging. "We need to separate things that are usual or expected changes of aging from common diseases that can be treated," says Dr. Ostfeld.

The EPESE data has become a resource at the School of Medicine for other research on aging. As one of 15 researchers on the MacArthur Research Program on Successful Aging, a national project supported by the John D. and Catherine T. MacArthur Foundation, Professor Berkman is using the EPESE cohort to determine the factors that make people age successfully, both physically and psychologically.

CLINICAL STUDIES

With funding from the Robert Wood Johnson Foundation, Professor Berkman and Dr. Leo M. Cooney Jr., associate professor of medicine and a 1969 medical school graduate, are conducting an EPESE substudy on factors that predict recovery from illness among elders.

Dr. Cooney is director of the Yale Program in Geriatric Medicine, which has developed an extensive clinical base that serves as a resource for teaching and collaborative work. The program includes an inpatient geriatric rehabilitation unit and the Geriatric Assessment Clinic at Yale-New Haven Hospital; medical directorship of a nursing home; and a geriatric evaluation unit, rehabilitation unit and outpatient geriatric clinic at the West Haven Veterans Administration Medical Center.

Other faculty members in the program are Drs. Mary E. Tinetti, Ronald L. Miller, Gail M. Sullivan, Sharon K. Inouye and Margaret A. Drickamer, all assistant professors of medicine.

In collaboration with Robert Fetter, the Harold E. Hines Jr. Professor of Health Care Management at the Yale School of Organization and Management; and Brant E. Fries, Ph.D., of the University of Michigan School of Public Health, Dr. Cooney developed Resource Utilization Groups, a method of classifying long-term care patients according to their needs. This system now serves as the method for nursing home reimbursement in New York State and in Veterans Administration facilities throughout the country.

Dr. Tinetti's research on the problems of falls among the elderly includes the development of a predictive index that will assist in fall prevention. The Robert Wood Johnson Foundation provided funding for this work, which was the basis for a National Institute on Aging Academic Award recently granted to Dr. Tinetti.

Together with Dr. Ostfeld and Dr. Alvan R. Feinstein, professor of medicine and epidemiology, Dr. Tinetti also has been studying the effects of falls on participants in the EPESE cohort.

Dr. Miller organized a collaborative effort with the infection control nurses in 28 nursing homes to study the true complication rate in nursing homes of indwelling bladder catheters. This group also has agreed to work with Drs. Tinetti and Miller to look at the risks and benefits of using common nursing home interventions, such as restraints, for patients with multiple illnesses.

"The differences among nursing home patients, the multiple reasons for using an intervention, the difficulty in separating the effects of the intervention from the effects of the patient's pre-existing health status, and the lack of clear-cut outcome measures render the usual intervention research techniques inappropriate for nursing home patients," says Dr. Tinetti.

Drs. Cooney and Feinstein are attempting to identify some predictors of nursing home care needs for hospitalized elderly patients. They have developed an index that will predict the need for care at home and for nursing home placement, with the particular goal of identifying those patients who would benefit most from aggressive intervention designed to prevent nursing home placement.

In the area of basic science research, Dr. Cooney and Nanne Scholhamer, social worker for the Geriatric Assessment Clinic, have developed a program with Dr. Elias E. Manuelidis, professor of neuropathology(surgery) and neurology, that enables patients' families to have postmortem examinations done on the brains of Alzheimer's disease victims. More than 40 examinations have been conducted thus far.

At the West Haven VAMC nursing home unit, Dr. Drickamer has been studying the use of functional assessment in setting goals and planning for care of elderly nursing home patients. Also at the VAMC, Dr. Sullivan is investigating the problem of iatrogenic illness in the elderly, and Dr. Sharon Inouye is looking at the complications of various investigative procedures in elderly patients.

Says Dr. Cooney: "All of these geriatric program research efforts are examples of the information that can be obtained from the close cooperation of clinicians—who are involved in the day-to-day problems of the frail elderly—and clinical and basic science investigators."

In a separate but relevant project, David A. Pearson, Ph.D., research scientist and associate dean for public health; and Dr. Walter Hierholzer Jr., professor of medicine and epidemiology

and YNHH epidemiologist, epidemiology and infection control, are conducting an 18-month collaborative study on nosocomial (institutionally induced) infections in nursing homes. The research is funded through a contract from the Centers for Disease Control.

The CDC estimates that nosocomial infections already cause more than 20,000 deaths and contribute to an additional 60,000 in hospitals each year. Although the annual indirect cost of treating these infections is thought to be around \$2.5 billion for hospitals alone, little is known about the scope of the infections in nursing homes.

The Yale researchers plan to define the risks, identify priority areas and develop guidelines for preventing nosocomial infections in the nation's 18,900 skilled nursing homes. This is the first study of its kind in the country, according to the CDC. The findings are expected to be available early in the fall.

SYSTOLIC HYPERTENSION

Octogenarians and their elders make up the fastest-growing population group in the United States. They also have the highest incidence of isolated systolic hypertension (ISH), a condition characterized by systolic pressure elevated to more than 160 mm Hg, while the diastolic remains in the normal range of less than 90 mm Hg.

In the population at large—excluding the elderly—elevations of systolic pressure in the absence of elevated diastolic are unusual. So, although ISH is now estimated to affect more than three million Americans over age 60, relatively few studies have looked seriously at the condition.

"In the past, no American trials of hypertension treatment studied anybody who was older than 69 years of age when the study began. Furthermore, no one has ever looked at whether or not we should treat isolated systolic hypertension, in this or any population," says Dr. Henry L. Black, associate professor of medicine and director of the hypertension service at Yale-New Haven Hospital. "We have many very healthy elderly people now, who are facing a new kind of problem and really don't know what to do about it."

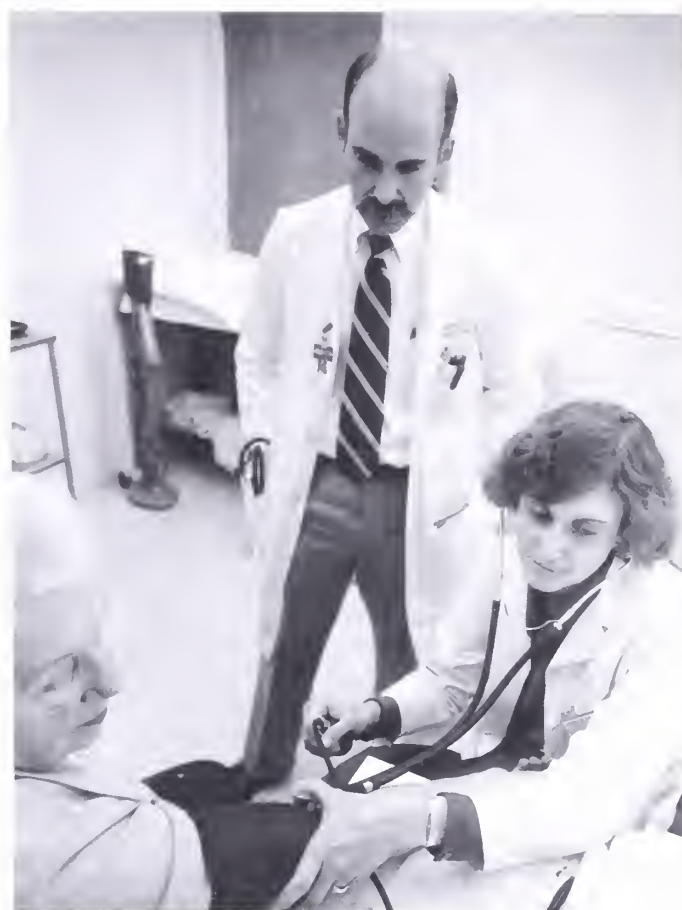
Dr. Black is principal investigator for the Systolic Hypertension in the Elderly Program (SHEP) at the School of Medicine. This seven-year clinical trial sponsored by the National Heart, Lung and Blood Institute and NIA has been underway at 17 centers nationwide since March 1985. The program is expected to determine whether standard antihypertensive drug therapy for ISH will reduce the incidence of strokes in elderly people.

The past 15-20 years have shown that systolic blood pressure is a better predictor of all hypertension-related complications than is diastolic pressure. People with systolic elevations of blood pressure (ISH) have an increased all-cause mortality rate, twice as many heart attacks, and three times the number of strokes and angina than do those with normal blood pressure.

Yet, many physicians argue that ISH is a natural consequence of aging and the increased rigidity of the arterial system. Treating ISH, they say, will do nothing to reduce the risk of heart attack and stroke, because ISH simply marks the presence of aortic arteriosclerosis.

SHEP is a cooperative study, with all 17 centers using the same protocol, recruiting patients with the same criteria and providing medication in the same fashion. A goal of 5,000 volunteer patients has been set nationwide, with 300 from the Yale SHEP study.

"Because this issue of whether to treat ISH is so important



Dr. Henry L. Black, associate professor of medicine and principal investigator for the Systolic Hypertension in the Elderly Program (SHEP), watches as SHEP clinic coordinator Jan Davey, M.S.N., measures the blood pressure of Eugenia Zuraski of Branford, Conn. Zuraski has been a patient in the SHEP program since December.

to this population, we're also looking at things other than strokes: other cardiovascular diseases and heart attacks, for example," says Dr. Black. "We're also looking in a formal way at whether or not we are causing or preventing dementia and depression with our medication."

In this double-blind study, half the group receives antihypertensive medications and half is given placebos. Participants have comprehensive cardiovascular monitoring every three months throughout the program.

The participating centers send weekly data to a coordinating center in Houston, Tex., where a board of internists, cardiologists and neurologists monitors every event. "If it begins to look as if there is a statistically significant trend toward either the placebo or the active treatment being better, the study could be stopped early," says Dr. Black.

"Since it's a placebo study, we're very sure that we will get an answer," he says. "The answer may well be that we shouldn't be treating the population with ISH, which I would consider a perfectly respectable answer to get. Either way, we'll have a better idea as to what to do."

The SHEP team also includes Dr. Charles K. Francis, associate professor of medicine and diagnostic radiology and director of the cardiac catheterization laboratory at YNHH; Dr. Samuel L. Bridgers, assistant professor of neurology; and Janice Davey, M.S.N., clinic coordinator and a 1976 graduate of Yale School of Nursing.

SENSORY LOSSES

"About 20 years ago, I read a paper that just made me furious," says Linda M. Bartoshuk, Ph.D., professor of epidemiology (environmental health) and psychology and fellow of the John B. Pierce Foundation. "It said that elderly patients complained about food, but that probably didn't have anything to do with the real problem with their taste sense. Instead, they just had a 'distaste for life'; they were just being cranky."

To refute the literature that she found so offensive, Professor Bartoshuk decided "to go out there and measure whatever sensory disturbances were present and support the complaints that elderly patients were making."

But something else happened. "We never found any taste loss," she says. "The elderly taste system, at least as far as the real world perception of foods and beverages, is completely normal. Aging, per se, does not take a heavy toll on taste. It devastates smell."

This loss of ability to smell correctly has a profound effect on the ability to perceive flavors—an experience that most people refer to as "taste."

To explain the distinction: Taste comes from the oral cavity—the tongue, palate and throat; it comes in four varieties—salt, sweet, sour and bitter. Smell, from the nasal cavity, contributes flavor to food as it is eaten. Taste appears to be "hard-wired" and more primitive, whereas smell is labile, perhaps more learned.

For example, says Professor Bartoshuk: "There is almost no real taste to roast beef; it's all odor. And the odor input is going all the way from inside your mouth up to your nasal receptors, stimulating the sense of smell. So if you lose your sense of smell, you think you can't taste."

Professor Bartoshuk and her colleagues discovered that although taste thresholds (the lowest concentration at which a taste is noticed) increase with age, the taste of "real world" concentrations, which are far above threshold, appears to remain intact.



John B. Pierce Foundation fellows Joseph C. Stevens, Ph.D. (left), Linda M. Bartoshuk, Ph.D., and William S. Cain, Ph.D., demonstrate a taste test. Cain and Bartoshuk both are professors of epidemiology and psychology at the School of Medicine, and Stevens is senior research scientist and lecturer in psychology at Yale University. All three are investigating the relationship between taste and smell loss and aging.

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Olfaction, however, shows great losses with age. According to research conducted by two John B. Pierce Foundation fellows—William S. Cain, Ph.D., professor of epidemiology (environmental health) and psychology at the School of Medicine, and Joseph C. Stevens, senior research scientist and lecturer in psychology at Yale—this loss begins while people are in their 40s.

Professor Bartoshuk believes that these discoveries may hold a key to the nutritional well-being of elders. "Properly functioning taste and smell play a very important role in the quality of life and the way we choose to feed ourselves.

"If olfaction is gone and taste is not, there may be an immediate remedy," she says. "At Duke University, Dr. Susan Schiffman has increased the intensity of odors of foods without compromising the nutritional status." Thus, artificial essences can make food more palatable to the elderly, even if the texture of the food has been altered to allow for easy swallowing.

But because it is not yet clear whether losses of taste and smell with aging are functions of the aging process itself or are the result of other events, such as viral infections and head injuries, that can occur over a lifetime, clinical treatment of taste loss in the elderly is still at an early stage.

Professor Bartoshuk and her colleagues currently are studying the effects of viral infections, through evaluation of individual elderly patient histories combined with research on animal models. They also are studying the relationship of dental condition and sensory loss in elders.

"We may need to re-evaluate our clinical norms," says Professor Bartoshuk. "We don't want to test someone in the clinic who is 80, tell them they've got a taste loss, and look for clinical reasons for the loss if this loss is absolutely characteristic of everyone who is 80."

In related research, Dr. Philip M. Sarrel, associate professor of obstetrics and gynecology and of psychiatry, is chief investigator for a \$700,000, multidisciplinary study funded by the National Institute on Aging on the effect of hormones on the female peripheral nervous system and the peripheral vascular system. The three-year study will examine the effects of estrogen and progesterone on touch and vibration sense, peripheral blood flow and skin structure.

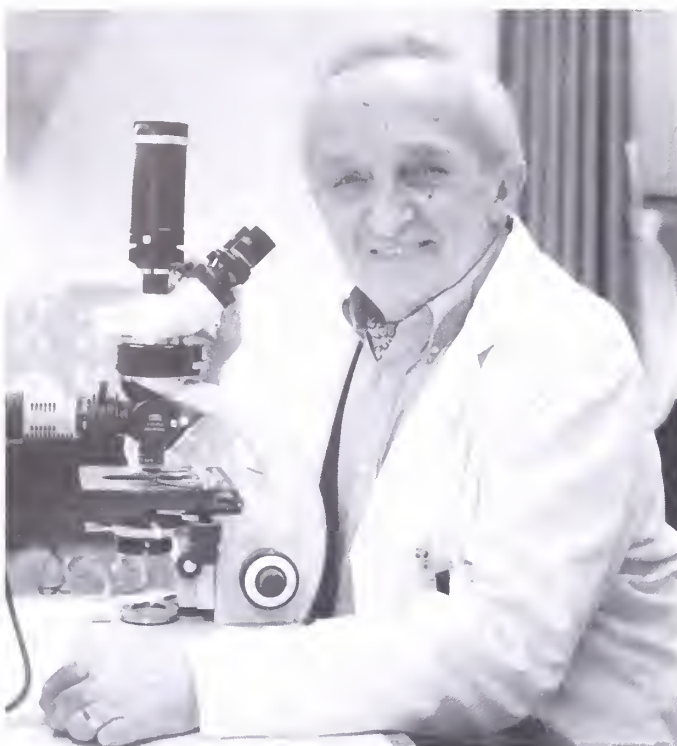
Dr. Sarrell says that preliminary findings indicate that a lack of estrogen affects skin structure, peripheral nervous functioning, cardiovascular functioning and psychiatric functioning and that estrogen replacement therapy can help correct these changes.

The mid-life study program research team also includes Lawrence E. Marks, Ph.D., professor of epidemiology and psychology; Dr. Irwin M. Braverman, professor of dermatology; Dr. William M. Glazer, associate professor of psychiatry; Carolyn Mazure, Ph.D., assistant clinical professor of psychiatry (psychology); and Dr. Jean Bolognia, a postdoctoral fellow in dermatology who graduated from the School of Medicine in 1980. Dr. Hal Morgenstern, former associate professor of epidemiology and public health and now at UCLA, is the project consultant epidemiologist.

Dr. Braverman, in addition to his work on this project, has been investigating the role of elastic fibers and vessels in cutaneous aging.

ALZHEIMER'S DISEASE

Dementias, once referred to by noted biomedical scientist Dr. Lewis Thomas as "the disease of the century," are one of the



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four most common categories of diseases affecting individuals 65 years and older. One of the most prevalent of the dementias is Alzheimer's disease.

Alzheimer's disease now affects an estimated one-to-two million Americans, and the number is increasing as the elderly population grows. It is a costly disease, requiring continuous care over many years for its victims.

Individual convalescent care runs upwards of \$30,000 per year for each Alzheimer's victim. Federal expenditures for the disease are projected to be higher than \$20 billion by 1990. Although the causes of Alzheimer's disease still are unknown, laboratory researchers at the School of Medicine are finding clues to its etiology and possible treatment.

Dr. Elias E. Manuelidis, professor of neuropathology (surgery) and neurology, has been studying virus dementias for more than 10 years with support from the National Institutes of Health. In the late 1970s, he was able to transmit Creutzfeldt-Jakob disease (CJD), a dementia caused by an unconventional virus, to convenient laboratory animals, such as guinea pigs, hamsters and mice. He used the animal models to study disease mechanisms both in CJD and in Alzheimer's disease, which is difficult to discriminate on clinical grounds from CJD.

"There are some neurochemical similarities and occasional overlapping lesions between the two diseases, and the familial incidence is roughly the same—12 percent of the families of both CJD and Alzheimer's have a high incidence," says Dr. Manuelidis.

On the hypothesis that Alzheimer's disease also is caused by a virus, Dr. Manuelidis and his wife, Dr. Laura M. Manuelidis, associate professor of neuropathology (surgery), are using animal models to study its etiology. They believe that earlier attempts to transmit the disease to animals failed because the human victims were in Alzheimer's end stages, where the virus may no longer be present.

"We know from other viral diseases that the virus is present sometimes in the first or second day of the disease," says Dr. E. Manuelidis. "For example, with poliomyelitis, when the individuals come in for autopsy, the virus is no longer present. It destroys whatever it can, then is gone."

The Drs. Manuelidis' current experiments in this area involve inoculating animals with blood of humans from high-incidence Alzheimer's families, in hopes of isolating the disease in its early, possibly viral, stages.

The symptoms associated with Alzheimer's disease—beginning with the loss of learned skills, such as arithmetic, and progressing to memory loss and a virtual shutting down of the mind—result from its disastrous effect on the structure and function of the cerebral cortex.

Neuropathologists have found that association areas of the cortex, including the prefrontal cortex, are a major location for plaques and tangles—the products of degeneration that serve as diagnostic markers of Alzheimer's disease.

Aged rhesus monkeys and other non-human primates also develop these senile plaques and tangles, as well as a decline in levels of various neurotransmitters. "We discovered that with aging, there is a sharp fall-off in the content of certain monoamines—norepinephrine and dopamine—in the cortex of aged animals. The same neurochemical deficits occur in aged humans and Alzheimer's patients," explains Patricia S. Goldman-Rakic, Ph.D., professor of neuroscience.

This decline, says Professor Goldman-Rakic, can be traced to a loss of brainstem neurons, containing norepinephrine, that have widespread projections throughout the cerebral cortex.



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Patricia S. Goldman-Rakic, Ph.D., professor of neuroscience (left), and Amy Arnsten, Ph.D., assistant professor of neuroanatomy, have used adrenergic agonists to treat memory loss in monkeys. They currently are testing the alpha-2 adrenergic agonist clonidine as a potential drug for reversing loss of memory and cognitive functions in Alzheimer's patients.

When the neurons die, their axons degenerate, and the cerebral cortex is deprived of its normal source of norepinephrine.

Earlier experiments conducted at the National Institute of Mental Health by Professor Goldman-Rakic and colleagues showed that the depletion of catecholamines, such as norepinephrine, in the cortex of young adult monkeys resulted in specific memory and behavioral losses.

But even more important was the discovery that they could then restore the lost memory and functions with adrenergic agonists, which replaced the depleted norepinephrine. "This was the first evidence that 'replacement therapy' could be used for memory loss," explains Professor Goldman-Rakic.

Professor Goldman-Rakic, Amy Arnsten, Ph.D., assistant professor of neuroanatomy, and their associates believe it may be possible to treat Alzheimer's disease similarly. Using aged monkeys as models, they have been testing the alpha-2 adrenergic receptor agonist clonidine, which already is used to treat high blood pressure, Gilles de la Tourette's syndrome and heroin addiction, as a potential drug for reversing loss of memory and cognitive functions in Alzheimer's patients.

These researchers found clonidine to be effective in improving memory and performance in non-human primates and reported their findings in the Dec. 13, 1985, issue of *SCIENCE*. They have since replicated these findings on 13 monkeys.

Because the positive, cognitive-enhancing effects of the drug can be blocked by selective alpha-adrenergic antagonists, clonidine may be working through alpha-2 receptors in the brain. Studies carried out by Professor Goldman-Rakic and Dorothy W. Gallagher, Ph.D., associate professor of psychiatry (pharmacology) and neuroanatomy, using the method of in vitro autoradiography, have revealed that alpha-2 receptors are present in high concentrations in the cortical areas important for the type of memory that has been examined.

Clonidine is not an ideal drug, however, since it also produces sedation in the dose range that would be set for improving memory. While looking at ways to solve this problem, Professors Arnsten and Goldman-Rakic discovered alpha-2 receptor subtypes in the brain. Thus, it may be possible to dissociate the sedative and cognitive-enhancing properties of selective alpha adrenergic compounds, says Professor Goldman-Rakic.

Clinical trials based on some of the preliminary findings of Professors Arnsten and Goldman-Rakic have begun at several medical centers throughout the country and are expected to begin soon at Yale under the direction of Dr. Alan P. Siegal, assistant professor of psychiatry.



A woodcut from Bartholomaeus Anglicus, *Le Proprietaire deschose*, Nicolas Conteau, Paris, 1510, shows the ages of man. The book is in the collection of the Yale School of Medicine Historical Library.

CLINIMETRICS: NEW CHALLENGES IN MEDICAL MEASUREMENT

by Dr. Alvan R. Feinstein

Suppose you have been asked to choose between two baseball players, one of whom is batting .400 and the other .250. If you begin comparing the players by using the approach that now pervades medical literature, you would immediately ask about "statistical significance." Thus, if the respective hits per times at bat were 2/5 vs. 1/4 for the two players, you would dismiss their batting averages of .400 vs. .250 as non-significant; but if the same results came from such numbers as 320/800 vs. 200/800, you would be impressed by the distinction.

If the numerical distinction seems "statistically significant," you might next ask some questions that involve a knowledge of baseball, rather than statistics. Is the .400 hitter an outfielder, whereas the .250 hitter is a pitcher who wins 30 games a year? Do the two players have similar fielding averages? What about other aspects of their performance, such as runs batted in, slugging average or morale value to the team?

Next, after considering these "clinical" features of the activities, you might want to know if the two players were being fairly compared. Does one play in the major leagues, for the New York Mets, whereas the other plays in the seven-sisters league, for Mount Holyoke College? Finally, you might ask about the accuracy of the basic, raw data. Have the batting details been compiled by scorekeepers who used the same criteria for deciding how to identify and count walks, hits, errors, outs, sacrifice hits, fielder's choices and times at bat?

Aside from the initial question about "statistical significance," all the other evaluative aspects of the two players' performances depended on "clinical judgment" about baseball. You used the judgment in recognizing important features of the evaluation that were not included in the batting-average statistics: the additional "clinical" attributes of the players, the fairness of the comparison, the accuracy of the basic data.

Although the cited judgments might immediately be applied during a statistical evaluation of baseball players, analogous types of judgment are regularly neglected today when physicians do clinical forms of research or read the published reports.

Instead, we tend to rely on a series of mathematical strategies. We use statistical tests to tell us whether the observed numerical distinctions are "significant." We use another statistical technique to assign the treatments compared in randomized trials of therapy. We apply algebraic formulas, such as Bayes Theorem, and special graphs, such as receiver-operating-characteristic (ROC) curves, to evaluate the performance of diagnostic agents. In using the formal technique of "decision analysis"

for managerial conclusion, we multiply quantitative estimates of probabilities and "utility values" to get a mathematical score for each decision.

All of this mathematical activity has become an interesting paradox in the postgraduate careers of the many physicians who chose medicine as an occupation because they liked people and liked science but hated math.

MATHEMATICAL STRATEGIES

The attention to mathematical strategies has many advantages. By demanding "statistical significance," we avoid the fallacies that occurred years ago when major claims about huge differences were based on tiny numbers whose distinctions could easily have arisen by chance. By using randomized assignment of therapy, we avoid the type of biased comparisons that occurred in the days when surgical treatment of the prognostically good "operable" patients was contrasted with non-surgical treatment of the prognostically poor "inoperable" patients. By applying other formal mathematical methods to outline the decisions made in diagnosis or management, we are forced to give specific attention to important things that must be identified and considered during the process of making clinical decisions.

On the other hand, an excessive emphasis on mathematical procedures has had some major disadvantages for patients, physicians and the quality of both humanism and science in modern clinical practice.

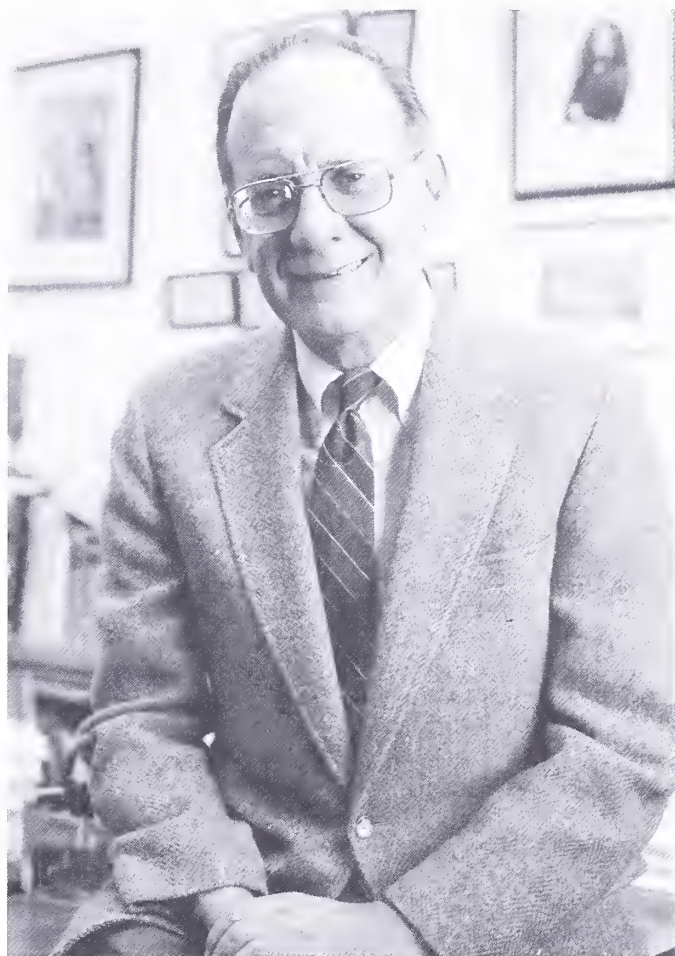
Perhaps the main problem is that many important types of clinical data and reasoning—the fundamental elements of "clinical judgment"—are either deliberately rejected or inadvertently ignored during the mathematical activities.

Aside from the dehumanization that occurs when we pay no deliberate attention to clinical information about symptoms, functional status and other human reactions of patients, the statistical results used in clinical science become non-reproducible.

The results are non-reproducible because they lack clinical precision: patients with the same disease can have strikingly different outcomes that depend on unrecorded and unanalyzed clinical distinctions. Survival in two patients with the same localized cancer will differ if one of the patients is cachectic and the other is not. The ability to return to work after coronary surgery may often depend more on the patient's pre-operative occupational status than on the anatomic state of the vasculature.

If these and other important clinical features of prediagnostic and pretherapeutic conditions are not suitably identified and analyzed, the results of statistical studies will be inadequate for decisions in clinical science and for application in clinical practice.

Dr. Alvan R. Feinstein is professor of medicine and epidemiology and director of the clinical epidemiology unit and the Robert Wood Johnson Clinical Scholars Program.



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Dr. Alvan R. Feinstein's new book discusses strategies and tactics needed to express clinical, human observations in a manner suitable for the humanistic science of clinical medicine.

PROBLEMS

A separate set of problems arises in etiologic research intended to identify causes of disease or risk factors. To test noxious agents that may cause disease, we cannot apply the type of randomized trials used for testing therapeutic agents that may prevent or remedy disease. Consequently, noxious agents or risk factors are usually evaluated in epidemiologic studies conducted with "observational designs" that often lack the scientific precautions routinely employed in experimental plans for randomized trials.

The epidemiologic research structures often use case-control and ecologic-association studies that are difficult for clinicians to understand, and that usually depend more on statistical than on scientific principles of research. The results of the studies are often substantially biased because the statistical methods may not contain suitable provisions for analyzing the human decisions and clinical data that are a fertile source of distortion in non-experimental information.

These problems in clinical and epidemiologic science create a fascinating irony as the 20th century departs—leaving medicine in an age of molecular biology, magnificent computers and extraordinarily high-powered technology.

The irony is the existence of a basic need, amid all the splendid molecular and technologic achievements, for better scientific methods of measuring clinical and human phenomena.

Because these phenomena cannot be expressed in angstroms, millimoles or other technologic dimensions, we need to improve the measurements that are done at fundamental human levels of observation and reasoning.

The basic observational measurements occur when clinicians (and patients) express and rate the relative magnitude of such entities as pain, dyspnea, distress, anxiety, depression, fatigue, insomnia, disability, functional status, joy, grief, satisfaction and all the other distinctly human clinical features that differentiate people from films, tracings, fluids, tissues, cells, molecules or animals. In the informal ratings used for clinical communication, we may say that a patient has "moderate pain, severe dyspnea and is 4 + sick".

The ratings are important, often crucial, elements of descriptive clinical measurement. Yet they do not receive the efforts of calibration and standardization that are applied for descriptive measurement in the laboratory tests that are often much less valuable indications of a patient's total condition.

We do not develop or teach specific criteria for what is meant by *moderate*, *severe* or *4 +*. Consequently, our statistical and computer colleagues, who justifiably loathe unreliable data, will usually dismiss the unstandardized clinical observations and ratings as being too "soft" to receive serious attention. The result is a computerized collection and statistical analysis of "hard" scientific data that are often dehumanized, because the key human information has been omitted.

Even when formal attempts are made to record the human clinical information, we may not do a very good job. For example, oncologists have now discovered that ratings of a patient's "performance status" are often prognostically more precise than citations of a cancer's histologic type and anatomic spread. Yet the ratings of performance status do not distinguish impairments attributable to the cancer's pathophysiologic derangements from disabilities caused by co-morbid associated diseases, depression or other non-oncologic factors. At the other extreme, clinicians may use intricate rating scales—for such attributes as anxiety, depression and health impairment—that have been deemed "reliable" and "valid" according to the mathematical strategies of psychosocial scientists.

Despite impressive statistical results for reliability and validity, however, the scales may be deficient in clinical "sensitivity" because they contain 200 items, require an hour of time to complete, and do not focus on the main issues of clinical concern to the doctor or patient.

CLINIMETRICS

In a new book called *Clinimetrics*, (published this year by Yale University Press), I have discussed the strategies and tactics needed to express clinical, human observations in a manner suitable for the humanistic science of clinical medicine.

In some instances, we need to make better use of what is already available; but many of the improvements will require the construction or development of new descriptive approaches and rating scales. For students, practitioners and investigators who want to observe and think as a humanistic physician, while expressing the observations as a precise scientist, *Clinimetrics* may offer appealing reading.

The subject of clinimetrics also has another potential attraction. For clinicians who seek the immortality of being commemorated with an eponym, abundant opportunities are available in the creation of clinimetric indexes and rating scales.

Many of the eponyms we learned in medical school bear the

names of the pathologists, physiologists, biochemists and microbiologists who identified diseases or etiologic agents in the 19th century and first part of the 20th century.

An entirely new set of eponyms today, however, commemorate the clinimetrically oriented physicians whose names are cited in the Apgar Score, Jones Diagnostic Criteria, Killip Classification, Lansbury Index, Norris Score, and even (dating back to some work I did many years ago when studying the treatment of obesity) the Feinstein Reduction Index.

The issues I have just discussed in measurement refer to the process of observation and expression that produces raw data—whether the data describe a person's height, serum cholesterol, magnitude of pain or severity of disability.

A quite different form of measurement occurs when raw data that describe individual attributes are collected for groups of people, when the group information is summarized numerically with a mean, proportion or other statistical expression, and when the statistical summaries are contrasted for decisions about the results in the groups. This is the type of contrast that was considered in the first paragraph when raw information about the baseball performance of two players was summarized about batting averages, and when the averages were compared.

The strategies derived from statistics will provide the means, proportions and other descriptive expressions that summarize data quantitatively. Mathematical methods also offer the calculations of probability that lead to inferential decisions about "statistical significance." What the statistical strategies do not supply, however, is the judgment that selects important clinical features to be noted and that uses those features to arrange for fair comparisons of groups.

The act of randomization is an effective way to avoid bias when groups are formed in the selection of treatment, but randomization itself will not avoid bias when the treatments are carried out and when the outcomes are observed. Randomization also does not affect the suitability with which the research was originally planned so that the right kinds of treatment are being compared in the right kinds of patients. When the measured results of two (or more) groups are contrasted, all of these other activities beyond randomization will involve clinical judgments to which mathematics has little to contribute.

Most importantly, however, we cannot rely on randomized trials to answer the many questions that will involve quantitative contrasts in an age of burgeoning technology. Randomized trials will be too unethical, infeasible or costly for assembling the groups whose measured comparisons are needed to evaluate many therapeutic agents, to check most diagnostic agents, and to appraise almost all etiologic agents or risk factors for disease.

In these circumstances, the measurements will have to come from groups collected after observation of the events that occur in ordinary clinical practice, without the statistical and scientific virtues of the experiments conducted as randomized trials.

SCIENTIFIC CHALLENGES

Accordingly, a major scientific challenge in clinical and epidemiologic research will be to develop suitable methods for identifying the cogent factors that produce biased or invalid comparisons in non-experimental studies, and to remove or adjust those factors appropriately.

Because so much intellectual effort has been devoted in the past few decades to randomization in studies of therapy and to other statistical strategies in studies of etiology, relatively little attention has been given to developing an appropriate set of scientific principles for identifying the sources of bias or distortion, and for developing appropriate methods and standards to deal with the challenges.

Since most of those challenges involve a clinical sophistication that has not been used in the conventional public health orientation of epidemiologic investigation, a new clinical approach has been proposed in the past two decades.

In another recent book, *Clinical Epidemiology* (W.B. Saunders Co., 1985), I have discussed the scientific challenges of this new field of research, identified some of its major problems and proposed some solutions. In addition to this book, four other books on clinical epidemiology have appeared in the past few years, reflecting the growing importance of this subject in modern medicine.

As a research domain, clinical epidemiology deals with the methods of "measurement" used to form groups, plan comparisons, and express results in a manner that warrants credibility according to both scientific and clinical standards of judgment.

As a topic of medical education, clinical epidemiology contains the background that practicing clinicians will need for the difficult task of evaluating the claims made in conferences, lectures and publications in the medical literature.

In the advances of modern medicine, we have developed a "basic science" for understanding and explaining the mechanisms of disease and biology. For dealing with the diverse measurements that have become prime issues in the current practice of clinical medicine, a different set of scientific strategies is needed. *Clinimetrics* and *Clinical Epidemiology* offer a complementary, additional "basic science" for this work.

CORRECTION

A typo in the fall, 1986, issue of YALE MEDICINE, referring to the anonymous minimum competency examination for medical students, may have had some students burning the midnight oil a little more than necessary. The sentence on page 7 in The Yale System article, Evaluation of Students—"The examination should be written in such a way that each student who has participated in the coursework should be able to pass with a score of at least 6590."—should have read, "...with a score of at least 65 percent."

YPI PROGRAM BLENDS THERAPY, SERVICE, RESEARCH

By Alphonsus J. Mitchell

When the Yale Psychiatric Institute moves back to the medical center in the summer of 1989, it anticipates more than the advantages provided by a larger, more flexible space for its program. "A much richer relationship" between the institute and the various departments of the Yale School of Medicine is foreseen by Dr. Gary L. Tischler, the director.

The links between the institute and such departments as neurology, internal medicine, adolescent medicine and pharmacology have not been lacking during YPI's 11-year sojourn on the Albertus Magnus College campus, about 2 1/2 miles north of the medical center.

But the return of YPI to this appropriate setting will generate more opportunities for consultation, evaluation, research and training. This can only add to the lustre of an institution which has earned through half a century a distinctive reputation for treating mental disorders in a clinical program that incorporates significant research efforts and the education of mental health professionals.

YPI had its beginnings in 1935, developing out of the Institute of Human Relations, an interdisciplinary program to study human behavior. YPI is an integral part of the department of psychiatry, overseen by a nine-member board of directors representing the School of Medicine, Yale-New Haven Hospital and the university. Although it formerly was exclusively concerned with mental disorders in older adults, the focus since the early 1960s has been on adolescents and young adults.

The shift in focus was a logical development in YPI's work, according to Dr. Tischler, the Charles B.G. Murphy Professor of Psychiatry, director of YPI since 1979, and, since July 1986, chairman of the department of psychiatry. "We know that adolescence is a time of life when a person is particularly vulnerable to mental illness," he says. "The most extreme form of mental illness, schizophrenia, has its usual age of onset during adolescence. Adolescence is also an age period when a person is particularly vulnerable to the effects of depressive disorders. There is growing evidence that the prevalence of these disorders among adolescents is greater than previously thought and that the course of early onset of affective disorder is particularly malignant if not energetically treated."

The young people admitted to the institute are patients in considerable peril. All of them previously have been treated in hospitals or outpatient programs without marked success. Some patients—fewer than 10 percent—are destined to spend their lives in institutions. A small percentage of others will need highly re-



DAVID OTTENSTEIN

Dr. Gary L. Tischler has directed the YPI and coordinated its return to the medical complex.

stricted continuous supervision for most of their lives. "But," says Dr. Tischler, "most are able to leave the hospital and lead fully productive lives, participating in a normal range of social and vocational activities."

YPI has a rated capacity of 66 beds, and it is usually filled or nearly filled with inpatients whose ages range from 14 to 35. The majority is on the younger end of the scale with the average age being 18. An additional 75 to 85 men and women are outpatients in the institute's community services division.

INTENSE TREATMENT

YPI is out of the ordinary in that few institutions in the country are focused on young people with such severe and complicated cases that require long-term care—up to 18 months. It is even more unusual, Dr. Tischler believes, in the way its programs are tailored to the needs of each patient, "a blend of psychological therapies, medication and social rehabilitation administered

Alphonsus J. Mitchell is the former editor of the Yale Alumni Magazine.



DAVID OTTENSTEIN

Art therapy is among the adjunctive therapies offered to the YPI patients. Here, William More, art therapist, (right) is working with a patient.

Many of the YPI patients are adolescents and young adults who respond to recreational therapy, including volleyball, swimming and basketball.



DAVID OTTENSTEIN

with a high level of intensity." The aim is to rehabilitate and educate, "to help them reconstruct elements of their lives," he says.

In addition to primary diagnoses of schizophrenia or major depression, well over half of the patients admitted to the institute have a secondary diagnosis of substance abuse or dependence. The abuse and dependence on drugs or alcohol may result in temporary or permanent brain damage, and these problems complicate the treatment.

Consequently, a thorough evaluation, including neuropsychological and neurophysiological tests, is undertaken when the patient enters YPI to confirm or alter the original diagnosis and determine if any collateral conditions exist. There are some, but not many, surprises in the evaluations, according to Dr. Tischler. "Often the existence of a cognitive impairment has not been previously identified. Most people (in acute-care programs) are treated for the basic condition alone."

After 30 days, the individual patient's treatment program is completely reviewed and, if necessary, reformulated. Every patient is reviewed subsequently on a monthly basis, and the staff makes a detailed review quarterly. In addition, weekly rounds are led by senior medical staff members.

Frequent assessments of patient response and progress are necessary in an institution where patients are confined for long periods. The assessments have an additional value in that the patient's condition and progress can be updated regularly in reports to parents and medical directors of insurance companies.

The course of treatment at YPI is expensive, ranging up to \$330 per day. Most patients are covered by a pre-paid health plan or insurance, according to YPI Deputy Director Sheila W. Wellington. "As with all specialized treatment, it is essential to make sure that the people here need the treatment they are get-

ting. A very active quality assurance and utilization review program reduces the likelihood of unnecessary lengths of stay," she explains.

The expense of the program reflects its intensity. The professional roster at YPI includes eight psychiatrists, four psychologists, 64 nurses and nursing assistants, 16 social workers, four occupational therapists, nine recreational therapists, eight special education teachers, seven advanced residents in psychiatry, five postdoctoral fellows in psychology and four social work interns. In addition, the institute has an administrative and support staff of 50.

FAMILY PARTICIPATION

YPI has three clinical divisions: admissions and evaluation, the inpatient clinical program and community services. Dr. Ira Levine is the clinical director of the institute. The patient and family have their first encounter, quite naturally, with admissions and evaluation, headed by Christopher Greene, a clinical social worker. During the initial phase—while the patient's history is being reviewed—members of the family are briefed on the program, which includes family participation in the treatment.

"Families are an important resource for the patient, particularly with adolescents and young adults," says Leonard Hill, who heads the family therapy program and the community services division. While some resistance to family therapy might be expected, he says that this is not the usual case. "Most people are terribly committed to their children. Many ask to be involved in the treatment. They may become discouraged and fearful at times about how long the patient will be disabled,



DAVID OTTENSTEIN



DAVID OTTENSTEIN

Dr. Charles W. Gardner Jr., clinical professor of psychiatry, (left) and Dr. Ralph E. Hoffman, associate professor of psychiatry, discuss the relationship between the clinical and educational training programs.

but it is one of our jobs to help both the patient and family develop realistic expectations about the course of illness and the process of recovery."

Upon admission, a patient may be confined to one of two closed units, one for young adolescents up to age 16 and the other for older adolescents and young adults. Each patient is provided an individual therapist, family therapist, primary nurse, primary psychiatric assistant, recreational therapist and occupational therapist.

For younger patients, a normal range of developmental work is undertaken while psychopathologies are being addressed. The severity is indicated by such cases as: a 15-year old girl with history of drug abuse and several suicide attempts, and a boy with a history of delinquent behavior, exhibitionism and an airline hijack attempt that led to court-ordered hospitalization.

While impulsivity is often a problem for patients in this group, the physically secure environment contributes to their ability to bring it under control.

Intensive treatment with individual and group psychotherapies is provided for each patient, who meets at least three times a week with the primary therapist and usually once a week individually with the family therapist. He or she will also meet three times with a small psychotherapy group consisting of four to eight patients, a psychiatric resident, postdoctoral fellow and one or more staff members.

The groups focus on daily activities in an effort to develop the patients' understanding of their own behavior and their relationships with others. Special therapy groups meet once a week and focus on subjects such as substance abuse, gender and sexual development, orphans and adoption and sexual abuse. All patients and staff have a once-a-week community meeting to discuss social and administrative issues affecting life on the unit.

PATIENT RESPONSIBILITY

In all activities, patients steadily are encouraged to take as much responsibility as they can for decisions affecting their treatment. The younger adolescents, and other patients who have not finished high school, attend the Cedarhurst School, a fully accredited special education high school.

Students from the YPI as well as day students from surrounding school districts attend Cedarhurst. The school is located on the former Jackson estate, just north of the Albertus Magnus campus in Hamden. It provides an academic program with a therapeutic approach for about 50 students. Patients who cannot leave the inpatient setting for one reason or another are tutored at YPI. An extensive program of recreational therapy, social skill development and pre-vocation training is provided for each patient.

Patients' families who live within 125 miles of New Haven meet weekly with the family therapist (sometimes with the patient) and are involved in parent groups, which meet weekly or bi-weekly. The individual family sessions explore relationships within that particular family; the group sessions focus on the needs and concerns of all the families who have a child in intensive treatment. A modified program is available to families living further away.

The immediate safety of the patients is, of course, a major concern in the closed units. Diagnostic assumptions are reassessed, and both biochemical and psychosocial treatments are undertaken with these patients. An integral part of the YPI approach is that patients are brought into community-based activities, adult education and individual programs that help them acquire practical living skills.

Patients from either of the closed units may transfer to a 19-bed open unit. This unit admits patients directly from other acute-care hospitals as well. This transition and brief treatment unit introduces social/vocational rehabilitation and psychoeducational treatments to supplement those treatments already underway. They are aimed at developing the life skills necessary for living in the community outside the hospital.

For instance, a critical skill is the ability to recognize impending relapse and to know how to seek help. This same skill is emphasized in family therapy sessions. A full-time discharge planning coordinator works with the patient and family to assure the continuity of essential care after the patient leaves YPI. The transition to the outside world is no light matter for individuals



DAVID OTTENSTEIN

Dr. Stephen Fleck, professor emeritus of psychiatry and public health, (left) has fostered much of the blend of research, service and training that characterizes the YPI, where the patient and his or her family are the primary focus.

who have had the severe problems manifested in the YPI patient population. Some of them move into the community services program or to other outpatient or transitional programs near where they live.

COMMUNITY SERVICES

The community services division accommodates many more than the patients at the institute itself. It accepts referrals from both the inpatient division of YPI and other institutions, both public and private. The community services division has been located at the medical center for more than two years and is a block away from the new YPI site.

All three of the community service programs focus on the adjustment to ordinary life, to dealing with things that most people take for granted but which may be formidable hurdles for recovering psychiatric patients. "Some of these people are living in the community for the first time in years," says Hill. "They're terrified. We spend a lot of time motivating these people, changing attitudes, giving them new habits."

From 20 to 30 people are accommodated in the day hospital at 350 Congress Ave., which offers intensive psychiatric treatment, social and vocational rehabilitation and training in community living. Patients usually attend full time for six months, or longer if needed, while they gain confidence and then move to other YPI or community programs.

The supervised apartment program provides supervised scatter site housing, including regular home visits by staff and individual and group meetings.

The community work adjustment program provides several services. In The Workplace, a pre-vocational element of the program, patients are taught basic work-readiness skills: mobilizing themselves in the morning, how to dress for work, how to deal with questions others may ask, how to deal with a boss and other workers. Patients spend part of the day with

counselors and occupational therapists. They discuss work-related issues and role play to prepare for various situations. Then they go to a work site, often a local thrift shop, to serve as work trainees for a couple of hours, and return for a debriefing about the experience.

A second phase of the program involves placement in supervised work located by the staff. "Many go out in group placement," says Hill, "and they are supervised by a staff member at the job site. The coordinator spends a lot of time finding these job sites, and our promise to the employers is that we will provide staff support for both patients and employers."

Usually, this first work experience is part-time, about 15 hours a week, while the patients progress to a greater sense of independence. "We try to help them compartmentalize their lives a bit, to get them to think of work as just work," says Hill.

The program's final phase involves counseling those who are ready to enter the marketplace—what jobs they ought to look for, how they should present themselves, how to use a support network. "Recovery rates relate strongly to the use of support networks," Hill points out. "We encourage patients to use a group. It can be very important just to know someone to call when you have a problem."

At present, the average YPI patient has a stay of about 12 months. With the development of shorter term (30-90 days) and intermediate care (90-180 days) programs, the average length of stay for the entire program has decreased.

Sheila Wellington notes that the number of admissions at YPI has been rising. Seventy patients were admitted in 1986, compared to 52 the year before. A good part of that increase may be attributed to shorter patient stays.

This trend, she says, has developed from greater understanding throughout the mental health field of how treatment resources can be mobilized rapidly so that a person with severe mental illness can be brought back into the appropriate community settings and what it takes to support that person in the community. "The number of day hospitals in the state has increased in response to the increases in resources for community-based programs and the knowledge of how to use them," she says.

The merits of YPI may be rightfully measured in terms of its success in bringing severely ill patients back to better health. The YPI experience, as disseminated through training mental health professionals and through research programs closely entwined with clinical programs, form other aspects of the tripartite mission of training, research and service to the psychiatric patient. Thus, the YPI commitment of energies and resources has an impact that goes beyond these patients.

YPI is, as Ms. Wellington says, "a coveted training site" for advanced psychiatric residents, pre- and post-doctoral fellows in psychology and students in nursing, social work and medicine. All those being training are exposed not only to expert clinical work but also to fundamental research designed to improve their understanding of new developments in the field.

RESEARCH

The research, which develops naturally out of institute experience is "investigator-driven," arising on the initiative of individual staff members or units. However, continuity prevails in these pursuits. For instance, the center for family studies, a component of YPI now headed by assistant professor of psychiatry Jeri A. Doane, studies family variables in relation to schizophrenia. "This work has made important contributions to the understanding of patterns within the family and their effect

on mental illness and the response to it," says Dr. Tischler.

Dr. Ralph Hoffman, director of the center for biocognitive studies at YPI, has done important work on the relationship of language and psychosis; Philip Leaf of Yale's center for mental health services, has published papers on patterns of care in the community and factors in the YPI program which have produced tangible benefits.

Dr. Tischler's own work has dealt with evaluating the quality of patient care in mental health services and with social psychiatry and psychiatric epidemiology. The move to new facilities will improve the research aspect of the institute's work immediately.

The chief benefits of the YPI move are not only more space but better space, 20,000 square feet of it. "We can accommodate more people," says Dr. Tischler. "We will have room for more activity, for occupational and recreational therapy, creative arts therapy. The new facility will be a village that provides opportunity for movement. The open wards are designed specifically to provide for patients progressing to more and more autonomy."

The entire setting is designed to facilitate better care for patients, better opportunities to educate and train and better avenues for research that can improve what we know of mental illness and mental health.

Frank O. Gehry's "village" concept for the new Yale Psychiatric Institute facilities will feature a courtyard fronting Cedar Street.



Courtyards are an integral part of the architectural fabric of Yale University, and the same will be true of the new facilities for the Yale Psychiatric Institute. The noted California architect Frank O. Gehry, in collaboration with Allen Dehar Associates of New Haven, has created a courtyard as part of the YPI design—a village community complex.

Founded in 1935, the YPI had been located near the school's Institute of Human Relations until 1975. Then, the institute signed a 10-year lease for facilities at Albertus Magnus College. However, the space proved to be inadequate, and YPI initiated plans to relocate.

Since the Connecticut Commission on Hospitals and Health Care approved the certificate of need in May 1985, many University and school leaders have spent innumerable hours planning the new facility.

The \$9.7 million project has begun with site preparation, removing existing buildings on the block bounded by Cedar and Liberty streets and Congress and Washington avenues. Groundbreaking is scheduled to take place this spring, and the new facilities are to be completed in 1989.

"At the YPI, the clinical and academic programs interact, so that patient care reflects the highest standards of contemporary psychiatric practice," said Dr. Gary Tischler, psychiatry department chairman and director of YPI. "The exceptional knowledge and experience acquired at YPI are put to work for the benefit of psychiatrically disturbed individuals throughout the United States."

Three patient buildings reflect levels of treatment, ranging

from closed units for the most severe cases to open, apartment-style living areas.

The building that faces Congress Avenue will accommodate administrative offices. The street level will provide commercial space, employing the same concept as the Yale Center for British Art on Chapel Street, where local merchants operate businesses on the museum's first floor.

Architect Gehry is familiar with both Yale and academia. He was the William F. and Charlotte Shepherd Davenport Visiting Professor of Architectural Design at Yale in the fall of 1985; the following year, he was the focus of a 20-year retrospective exhibition at the Walker Art Center in Minneapolis. Among his recent projects are the Loyola Law School and the California Aerospace Museum and Theater.

Architecture critics have described Gehry as "an artists' architect," adding that his houses, office buildings, museums and furniture possess originality and power. His ideas are provocative, and his work shows a close relationship to modern art, especially cubism. This is evident in the YPI project.

"In an era characterized by a remarkable proliferation of knowledge concerning the causes and nature of psychiatric illnesses, academic centers that span the realms of service and science have a unique opportunity to broaden our understanding and improve our ability to treat severe mental disorders," said Dr. Tischler. "The move back to the medical center will allow us to take advantage of this opportunity."

RESPONSE TO ALUMNI SURVEY: A DIALOGUE EMERGES

by Drs. William L. Kissick and Nicholas P.R. Spinelli

In April 1986, Dr. Kissick and Dr. Spinelli wrote a paper evaluating the organization of the Association of Yale Alumni in Medicine, based on their combined eight years as presidents of the association (1977-1985). Last May, this paper and a questionnaire were distributed to all association members, including medical school graduates, former house staff and fellows of the Yale School of Medicine. A summary of the paper and a discussion of the responses to both the paper and the questionnaire follow.

Traditionally, the major functions of the Association of Yale Alumni in Medicine have been to provide financial support to current medical students, to communicate news of the school via YALE MEDICINE and to organize reunions. But our paper concluded that these functions are hampered by a weak organizational structure that is poorly understood by the AYAM membership and discourages meaningful participation by members.

We recommended restructuring the association to provide better communication of personal alumni news; better understanding of the needs of the School of Medicine; better professional help to current students; more participation of alumni in the association; and more awareness and response on the part of the association to alumni needs and interests.

GENERAL SUMMARY OF RESPONSES

More than 10 percent of the approximately 5,000 association members returned completed questionnaires, and more than 60 percent of respondents added comments. A recurring theme was gratitude for a Yale medical education, which time had proven to be a positive influence on professional careers. Interestingly, about 20 percent of all respondents are engaged in academic, rather than practice careers.

Many respondents praised the unique Yale academic experience in comparison to that of other academic environments with which they were familiar.

SCHOOL-ALUMNI COMMUNICATION

Respondents commented on three areas:

1. YALE MEDICINE

Although this publication received almost universally favora-

ble comments, respondents requested more news about the curriculum, academic changes, and student performance and attitudes.

2. alumni news

The most intense and universal complaint was the dearth of news concerning classmates. This deficiency is being addressed by the inclusion of a School of Medicine column in the Yale Alumni Magazine (note: not YALE MEDICINE). However, YALE MEDICINE will continue to publish professional news and class notes about alumni. To be effective, of course, each alumnus/a must forward personal news, news of classmates and fellow alums, and address changes to the Office of Medical Alumni Affairs, Yale University School of Medicine, 333 Cedar St., P.O. Box 3333, New Haven, CT 06510.

3. alumni organizations

The Association of Yale Alumni in Medicine is our autonomous alumni organization, with its own bylaws. In the larger, university sphere, three "umbrella" alumni organizations—the Yale Alumni Fund, the Association of Yale Alumni (AYA) and the Yale University Office of Development—integrate all graduate and professional schools, as well as undergraduate class activities. The Association of Yale Alumni in Medicine functions as a component of all three.

Responding alumni were more familiar with the structure and function of the Yale Medical Alumni Fund—a component of the Yale Alumni Fund—than with the other alumni organizations. Annual fund solicitation letters from appointed classmate agents were acknowledged by medical alumni as the most reliable of all Yale correspondence.

The questionnaire responses indicated that some confusion exists as to the relationship of Yale medical alumni to the university's other two umbrella alumni organizations. For clarification, please refer to the short description that accompanies this article.

SATELLITE REGIONAL PROGRAMS

Although many respondents favored the development of regional alumni satellite organizations by the AYA, some said they would have difficulty freeing time from busy medical or academic practices. Thus, the success of such attempted efforts would depend on the caliber of regional leadership and quality of programs. Regions of high alumni density may have the most success. As regions emerge, cooperation from alumni will be essential. The Hartford, Conn.; San Francisco; Washington, D.C./Bethesda, Md.; and Durham, N.C. areas already have organized leadership and have held informational meetings.

Dean Leon E. Rosenberg and the faculty enthusiastically support providing Yale faculty programs for alumni groups. This initial enthusiasm suggests that these programs be developed further.

Drs. Kissick and Spinelli are past presidents of the Association of Yale Alumni in Medicine.



T. CHARLES ERICKSON

The House Staff/Fellows-Alumni Status subcommittee is shown at one of its recent meetings. Pictured from left to right are (seated) Drs. Nina R. Horowitz, E. Maurice Wakeman, Richard Selzer, and (standing) Nicholas P.R. Spinelli, Samuel D. Kushlan and John N. Forrest Jr.

MEDICAL STUDENT WELL-BEING

Perhaps the most touching aspect of the resultant "dialogue" was the alumni interest in meeting and assisting students. Most alums want the opportunity to communicate with today's students, and many have agreed to provide bed and board for out-of-town students visiting for residency interviews.

Students, too, are eager for such encounters. Most frequently, respondents suggested programs in which alumni provide students with a "tag along" clerkship in practice or research. While such experiences have so far been difficult to integrate into the academic curriculum, they may have greater potential in affiliated Connecticut loci.

"ALUMNI PAPER"—A LEARNING EXPERIENCE

As suspected, most alumni—75 percent—did not know or understand the structure of our alumni association or the "bare-bones" character of its makeup. We hope that our work has clarified this.

In response to this deficiency, the Office of Medical Alumni Affairs is planning to inform all Yale medical students about the alumni association. Future alumni class structure can be greatly

assisted by identifying class leaders while they are still in school.

Such class organization also can serve as a peer support structure for the medical students. Participation by students of the Class of 1989 in the 25th reunion program of the Class of 1962 in June 1986 exemplifies how mutually nourishing such student-alumni encounters may be. The alumni office will assist in promoting such future events.

YALE HOUSE OFFICER/FELLOW AS ALUMNUS/A

The commentary that accompanied the "dialogue" responses revealed a problem the authors had not anticipated: House officers and fellows who graduated neither from Yale College nor Yale School of Medicine, but who feel most intensely a Yale identity, repeatedly expressed feelings ranging from confusion to alienation, particularly about their roles at alumni weekend reunions.

Yet as medical students, we all remember house staff in our clinical rotations who were vital junior faculty and, indeed, role models for us. They are rightfully important members of our alumni club and are so identified in our bylaws. Therefore, a committee of involved and active former house staff alumni will be convened to study the problems presented, prescribe alternative organizational programming and clarify alumni status.

BYLAWS REVIEW AND REVISION

The bylaws of our association are as simple and as unstructured as the organization itself. First written in 1880, they last had minimal attention in 1971. When all committee functions described below are concluded, a bylaws revision subcommittee may be activated to review and update them.

PROPOSED COMMITTEES TO WORK ON THE REORGANIZATION OF THE ASSOCIATION OF YALE ALUMNI IN MEDICINE

A. Ad Hoc Committee for Organization and Bylaws Review
This umbrella committee, chaired by Dr. William L. Kissick '57 was described in the May '86 paper. Its members include:

William L. Kissick '57, chair
Richard W. Breck '45
Alexander R. Gaudio '63
Carol Goldenthal '44
Attilio V. Granata '77
Marie-Louise T. Johnson '56
R. Leonard Kemler '43
Robert A. Kramer '55
Thomas P. Kugelman '60
Samuel D. Kushlan '35
Dwight F. Miller '56
John B. Ogilvie '34
Nicholas M. Passarelli '59
Dorothea R. Peck '43
Jerrold M. Post '60
Ora K. Smith '53
Muriel D. Wolf '59

B. Proposed Subcommittees

1. Alumni Questionnaire Data Review

This committee is already functioning. Its deliberations will assist the direction and intensity of future programs.

Richard W. Breck '45
Attilio V. Granata '77
Samuel D. Kushlan '35
Dwight F. Miller '56, president, AYAM
Dorothea R. Peck '43
Nicholas P.R. Spinelli '44

2. Student Well-Being

Attilio V. Granata '77, chair
Bernard H. Shen '81
John B. Ogilvie '34
Ora K. Smith '53

Amy Lewis (student council president) '89

3. Regional Satellites

Washington, D.C.: Muriel D. Wolf '59, Jerrold M. Post '60
Hartford, Conn.: R. Leonard Kemler '43, Carol Goldenthal '44, Alexander R. Gaudio '63
San Francisco: A. John Anlyan '45, Lawrence G. Crowley '44

4. House Staff/Fellows—Status

Samuel D. Kushlan '35, organizer
Nina R. Horowitz HS '79-84
Richard Selzer HS '53-55, '57-60
John N. Forrest Jr. HS '64-67, 69-70
E. Maurice Wakeman HS '60-63

5. Bylaws Review and Revision

Robert A. Kramer '55, co-chair

Nicholas M. Passarelli '59, co-chair

6. Alumni Communication

This committee provides alumni news for YALE MEDICINE

Richard W. Breck '45, chair

Michael Kashgarian '58

Dorothea R. Peck '43

D. Helaine Patterson, director, YSM Office of Public Information

Other committees will be formed as needed. Interested alumni may participate as committee members, even if they live too far away to attend most meetings. Suggestions from all alumni are encouraged.

TABLE I

*Statistical Summary:
Responses to Questions Enumerated in Questionnaire*

A. Alumni Communication

1. Yale Medicine: satisfactory?	yes	438
	no	84
	total	492

2. personal news of classmates and alumni—satisfactory?	yes	205
	no	330
	total	535

3. news of alumni organizations—adequate?	yes	100
(AYA, alumni fund, development)	no	63
	fair	16
	total	179

(majority didn't answer or understand this question—see explanatory paragraphs)

B. Geographic regional programs: attractive, reasonable idea?

yes	304
no	176
maybe	26
total	506

C. Interest in working with current Yale medical students?

yes	364
no	150
maybe	14
total	528

D. Aware AYAM organization structure and function before reading paper?

yes	153
no	355
total	508

E. Total respondents, as of September 1986	537
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CONCLUSIONS

The AYAM paper, circulated in May 1986 to all alumni, elicited a gratifying response with diverse suggestions for our association's future structure and function. These serious decisions should not be made by only a few association officers or even the 14-member executive committee. Therefore, numerous subcommittees are being set up to address each identified issue. They will be open to all interested alumni.

These alumni will function tentatively as committee members. A word of caution is appropriate, however. Several alumni have commented: "Everything is fine as is; don't change a thing; don't build a nightmare administrative bureaucracy."

This sage counsel will be heeded as the dialogue continues. Meanwhile, the authors and the majority of respondents concur that the association and its staff can grow to be of even greater service to our school, its students and ourselves as fellow alumni. Participation by many and diverse alumni should prevent the possibilities of unrealistic expectations.

The discussions will be conducted by already busy volunteer alumni, and the pace of the committees' work will be slow and, indeed, deliberate. The counsel of our alumni will be thoughtfully considered. Change, when recommended, will be to benefit the school, students and alumni. It will always involve the simplest administration possible.

Finally, we wish to express our thanks for the abundant collegial warmth expressed by our alumni correspondents. It was perhaps best exemplified by an alumna from Monument Valley, Ariz. ("in the middle of nowhere"), now a physician in the U.S. Public Health Service. She offered to serve as tourguide to any YSM alum visiting the American desert, and she extended a similar invitation from three other Arizona-New Mexico YSM graduates.

Is the Yale medical alumni mystique alive and well? You'd better believe it!

Note: Please send personal and professional news, news of classmates, address changes or other information to:

Director
Office of Medical Alumni Affairs
Yale University School of Medicine
333 Cedar St., P.O. Box 3333
New Haven, CT 06510

To the same office, please send any suggestions for the future directions of the Association of Yale Alumni in Medicine.

Alumni Glossary

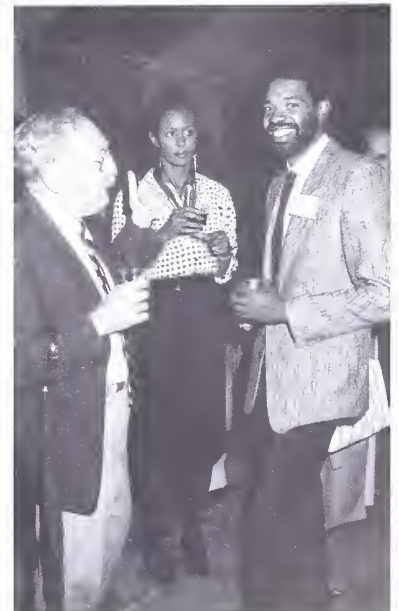
The Association of Yale Alumni in Medicine plans programs of specific interest to medical alumni. Like its parent organization, the Association of Yale Alumni (AYA), it provides a channel of mutual communication between alumni and Yale. Six medical alumni serve as AYA delegates to report on activities and concerns of alumni of the School of Medicine.

The Yale Medical School Alumni Fund is part of the Yale Alumni Fund, which was established in 1890 to raise unrestricted funds for the university. Gifts to the fund by medical alumni are added to the Student Revolving Loan Fund to provide financial aid to medical students.

The Campaign for the Yale School of Medicine was launched in May, 1985 to raise \$125 million for the school's capital needs, including endowment, facility construction and renovation, and program start-up funds.

Reunion 1986

Alumni and guests who attended the 1986 reunion shared conversation and sustenance. So, plan to attend the 1987 reunion this June. Center: Dr. David Raskind '24 and his guest enjoyed the 1986 reunion. Far right: Donald Moore '81 (right) and guest chat with John D. Thompson, M.S. '50, professor of public health (hospital administration), at Yale.



HERE AND ABOUT

Dr. Cohen Receives First Professorship in Harris Program

Dr. Donald J. Cohen, director of the Child Study Center and professor in the departments of pediatrics, psychiatry and psychology, has been named as the first Irving B. Harris Professor of Child Psychiatry.

The Harris professorship is a major component of the Harris Program in Child Psychiatry, Child Development and Social Policy created by a \$5 million endowment provided by Irving Harris (Yale '31) and Neison Harris (Yale '36).

The Harris Program consists of the Harris professorship, four assistant or associate professorships in child psychiatry, child development, child psychoanalysis and social policy, and a research fund.

The Harris brothers are leading businessmen and philanthropists. Irving Harris founded the Ounce of Prevention Fund and is a national advocate for young children and prevention of mental disorders.

A child psychiatrist and psychoanalyst, Dr. Cohen joined the School of Medicine faculty in 1972 and has been the director of the Child Study Center since 1983.

Dr. Cohen's clinical and research activities have focused on the serious neuropsychiatric disorders of childhood, including pervasive developmental disorders, such as autism, and stereotypic and tic disorders, such as Tourette's syndrome. The research program he has led in the Child Study Center is characterized by the integration of multiple biological and behavioral perspectives on psychiatric disorders of childhood, and the linkage between research and clinical services.

Dr. Cohen has published more than 200 articles and monographs. Among his academic activities, he is co-director of the Yale Mental Health Clinical Research Center; vice president (for North America) of the International Association of Child and Adolescent Psychiatry and Allied Professions; and a member of various editorial boards.

He has served on the professional boards of the National Society for Autistic Children, the Tourette's Syndrome Association, and Benhaven, the school and residential community for autistic individuals affiliated with the Child Study Center, where he is the psychiatric director. He also is a trustee of Brandeis University.

A native of Chicago, Dr. Cohen received his B.A. degree from Brandeis in 1961 and an M.D. degree from Yale School of

Medicine in 1966. He took his residency training at Harvard, Massachusetts Mental Health Center and Children's Hospital Medical Centers, and spent two years at the National Institute of Mental Health and in the Office of Child Development in Washington, D.C.

Dr. Weissman to be Sterling Professor

Dr. Sherman M. Weissman, professor of human genetics, medicine and molecular biophysics and biochemistry, has been named Sterling Professor of Human Genetics, Medicine and Molecular Biophysics and Biochemistry.

In his laboratory, Dr. Weissman is working on deriving a molecular map of the human genome that would be used for general approaches to map genes and different forms of genes that can effect the likelihood of having various diseases. Other work focuses on the SV 40 virus, an oncogenic virus; globin genes and genes of the immune system. He has published more than 170 scholarly articles on his research.

Dr. Weissman was a senior investigator at the National Cancer Institute metabolism service from 1960 until 1967, when he joined the Yale medical faculty as associate professor of medicine and molecular biophysics and biochemistry. He was named professor in 1972.

A member of the National Academy of Sciences and the Connecticut Academy of Sciences and Engineering and a fellow of the American Association for the Advancement of Science, Dr. Weissman serves on several editorial boards and has participated on numerous special national committees relating to virology and cell biology. At Yale, he is a member of the University's scientific planning committee and was associate director of the Comprehensive Cancer Center.

A Chicago native, Dr. Weissman received an M.D. degree magna cum laude in 1955 from Harvard Medical School, an M.S. degree in 1951 from the University of Chicago and a B.S. degree in 1950 from Northwestern University. He took his internship at Boston City Hospital, was a clinical associate at the NIH and completed residency training at the Illinois Educational and Research Hospital in Chicago.

Dr. Farquhar Named Sterling Professor

Marilyn G. Farquhar, Ph.D., professor of cell biology and pathology, has been named Sterling Professor of Cell Biology and Pathology.

Dr. Farquhar's current research interests include the investigation of pathways of membrane traffic and membrane recycling in glandular cells. She also is studying mechanisms of glomerular disease—that is, diseases that affect the special network of kidney capillaries that function to filter the blood.

In 1984, she was elected a member of the National Academy of Sciences. Earlier, she was the recipient of a Research Career Development Award from the National Institute of General Medical Sciences. Her scholarly publications are among those most frequently cited.

A past president of the American Society for Cell Biology, Dr. Farquhar participates in many professional societies and has served on the editorial boards of a number of scientific journals. Within the University, she has served as director of medical studies of the department of cell biology and as chairman of the Basic Sciences Curriculum Committee. She is currently serving on the Biological Sciences Advisory and Senior Appointments Committees.

A native of Tulare, Calif., Dr. Farquhar received all three of her degrees: A.B., M.A. and Ph.D., from the University of California at Berkeley. She was a professor in the faculties of University of California at San Francisco and the Rockefeller University before moving to Yale in 1973.

Pediatrics Thanks Cancer Society

The pediatric oncology division has thanked the Connecticut Division of the American Cancer Society for its program support of research, teaching and patient services in the School of Medicine.

For the past four years, the Connecticut Division of the ACS, led by ACS staffer Jane Bemis, has—through its childhood cancer committee—brought the needs of children with cancer into a sharper focus in both the organization and the state.

Dr. Diane M. Komp, professor of pediatrics and former member of the ACS National Childhood Cancer Advisory Committee, recently recognized Mrs. Bemis and the ACS for the "loving support of our patients" in a presentation at the pediatric oncology clinic's chemotherapy room.

DRG Costs Must Include Post-Hospital Care

Some of the money now saved on hospital costs should be used for home care programs for the elderly, says School of Medicine Professor John D. Thompson, who helped to develop the DRG cost-control system on which the federal government now bases Medicare payments.

Thompson is a professor of public health (hospital administration) at the medical school and professor of nursing administration at the School of Nursing, and he is a researcher with the Health Systems Management Group at the Yale School of Organization and Management.

Since the federal government began using a DRG-based payment system for Medicare patients in 1983, hospital admissions have declined and the average hospital stay for both Medicare and non-Medicare inpatients has shortened. Thompson says he applauds these results.

"Hospitals are unhealthy places for old folks," he says. "The longer the hospital stay, the more chance there is of getting a nosocomial, or hospital-related, infection. We wanted to cut down on unnecessary utilization of hospitals.

"Under the old system," he says, "no one asked how long a patient *should* be in the hospital. The financial incentives made it difficult to determine that. Now, with the DRG system, we can begin to make some rational decisions."

But Thompson says he is not pleased with the overall failure to provide money for post-hospital care for Medicare patients. "Shorter terms of hospital care do not always translate into shorter terms of care altogether," he says. "We have seen the tragedy that resulted from a previous policy of early discharge and deinstitutionalization of the mentally ill. There were no support services provided in the communities to which these patients were discharged.

"Now we are worried that the same thing will happen to the Medicare patients: patients will be discharged without the support services, such as home care, convalescent institutions and nursing homes, that they will need. Hospitals will be blamed for the problem, when actually it is just poor public policy."

Thompson also is analyzing the use of DRGs for pricing routine nursing costs in hospitals. In December, he presented a report, "DRGs and Nursing," in London at the first international conference on "The Management and Financing of Hospital Services," sponsored by the Health Systems Management Group.



GERI T. MANCINI

Artist Ann Lehman created this new copper sculpture for the Magnetic Resonance Center. She's pictured here at the unveiling with Dr. Richard Greenspan (right) and Dr. H. Dirk Sostman, associate professor of diagnostic radiology.

Copper Sculpture Created for MR Center

A new sculpture, entitled "Freely Formed," welcomes patients, researchers and guests coming to the Magnetic Resonance Center, a joint project of the School of Medicine and Yale-New Haven Hospital.

Ann P. Lehman, an award-winning artist and teacher who lives in Bethany, Conn., created the work that was unveiled in January by Dr. Richard H. Greenspan, associate dean for clinical affairs and former chairman of the department of diagnostic radiology. Mrs. Lehman designed the sculpture specifically for the Magnetic Resonance Center's main entrance, and the dramatic form seems to lean into its corner site.

The hollow sculpture, which measures 6'x4'x5', is made entirely of copper, possessing a wonderfully mottled patina that the artist achieved by combining a variety of chemicals with heat. The ribbon-like sculpture is simultaneously strong and delicate, balanced on a single point. "It is soft, warm, flowing and non-threatening," said Dr. Greenspan, who at the unveiling expressed great appreciation for both the work and Mrs. Lehman's creativity. He had commissioned the sculpture.

Reaction to the wavy piece has been very enthusiastic, with viewers noting a resemblance to some MR images.

The piece exemplifies the artist's philosophy. Mrs. Lehman says: "Exploring the extent and variety to which metal can be manipulated interests me enormously. This concept has grown out of a fine educational experience (Smith, Cranbrook and Yale), combined with sensitivity to technology and the creative process. Intersecting forms and the unique abilities of metal are the methods of my imagery. Some 25 years of making metal sculpture have given me the experience to be both practical and erudite."

Mrs. Lehman has been active in the Greater New Haven arts community. In 1960, she was one of the founders and first president of the Creative Arts Workshop, and she currently serves on the board of directors and teaches metal sculpture at the workshop. She also is president of Artspace, Inc., an organization that provides an exhibition gallery and dance rehearsal performance space for community artists.

Among her recent commissions include sculptures for Pepperidge Farm corporate headquarters, Armstrong Rubber Co., the New Haven Lawn Club and 100 Whitney Avenue.

Book Emphasizes Doctor-Patient Relationship, Placebos

Placebos may actually help to relieve pain and cure illness, says Dr. Howard M. Spiro, professor of medicine and director of the school's program for humanities in medicine.

"The scientific approach to human medicine—the molecular model—is not sufficient by itself to answer all our patients' needs," he says. "Disease [the objective findings of the physician] differs from illness [the subjective feelings of the patient], and placebos help the illness component of the disease." In his new book, *Doctors, Patients, and Placebos*, published last year by Yale University Press, Dr. Spiro uses the placebo as a metaphor for the doctor-patient relationship and its effect on healing.

"The placebo is a symbol of loyalty of the doctor to the patient," he says. "Loyalty involves knowing what the patient wants, spending time with the patient, showing that the doctor cares and doing what is in the patient's best interest."

While placebos alone cannot heal, Dr. Spiro says their effects on illness cannot be discounted. He cites evidence that "controlled clinical trials of healing in peptic ulcer suggest that more than half the people getting a placebo benefit from the placebo." Their pain is quickly relieved just by being in the study. "We should look at why that happens and what placebo relief tells us about the doctor-patient relationship," he urges.

In *Doctors, Patients, and Placebos*, Dr. Spiro urges physicians to improve their relationships with patients, to talk and listen as much as they look and measure, and to treat illnesses as well as disease.

He also hopes that medical school teachers will integrate science and intuition in teaching medical care, since intuition gives unique insights that science can test.

"There is increasing emphasis on what can be seen, on the cellular basis of disease, and a kind of disdain for the rest," says Dr. Spiro. The domination of laboratory medicine in current medical training "turns the physician into a scientist studying the cell and its subcellular processes, tracing its DNA rather than listening to, or even looking at, the person who is the patient."

"But there should be no 'forbidden questions,'" he says. "Medical science, using scientific criteria, should also examine the claims of holistic medicine, faith-healers and folk practitioners."

Dr. Spiro recommends that physicians-in-training be given more direct experience with patients who are not in hospitals, since those are the kinds of patients whom practicing physicians are likely to see. "We should be training doctors not only in the biomechanical mode," he says, "but also in

seeing outpatients—people who are up and around—as we used to, 30 years ago."

Says Dr. Spiro: "Hospitals today are large intensive-care units. They are not the best place to train physicians to take care of patients who may need understanding as much as science."

Dr. Spiro received his M.D. from Harvard Medical School in 1947 and has been a member of the Yale medical faculty since 1955, when he established the gastroenterology section at the Yale School of Medicine. He is author of a standard textbook in the field and is the editor of the *Journal of Clinical Gastroenterology*.

Dr. Tsien Presented Javits Award to Study Calcium Channels

Dr. Richard W. Tsien, professor of physiology, has been given a Javits Neuroscience Investigator Award for his distinguished record of contributions in neurological sciences.

The U.S. Congress established special Awards to honor the late Sen. Jacob K. Javits of New York, and the National Advisory Neurological and Communicative Disorders and Stroke Council selects the recipients, whose research is supported for seven years.

Dr. Tsien, a Rhodes Scholar who joined the Yale medical faculty in 1970, will focus his research on developing new approaches to studying the role of calcium channels in neuronal function. Specifically, he will examine the way calcium channels control the release of neurotransmitters and, in the long term, the changes in communication between nerve cells.

His research may be applied in studying disorders of the nervous system, such as epilepsy, and in forms of defects in neurotransmitter release.

At Yale, Dr. Tsien and his colleagues have discovered new types of calcium channels in neurons, heart muscle cells and smooth muscle cells. The new types of channels seem to be involved in important cellular functions, such as control of neurotransmitter release and contraction.

Calcium channels themselves are molecular pores that exist in cell membrane of all excitable cells. They possess the unique role of transforming electrical messages into chemical messages by allowing calcium entry into cells.

Unified Language Sought in Medicine

Computers—those high-tech tools that engineers and mathematicians have used for years—have entered medicine, and researchers at Yale and elsewhere are working to develop a unified medical language (UML).

With a two-year, \$355,000 grant, Perry L. Miller, M.D., Ph.D., assistant professor of anesthesiology, will participate in the national project sponsored by the National Library of Medicine.

The goal of the UML project is to develop a common vocabulary for physicians and other health professionals when using computers to retrieve and store bibliographic information, abstract clinical records, access clinical data bases and help in diagnostic decision-making, according to Dr. Miller.

"If the same language were to be used, then there would be no need for translation tables, books and other guides in order to move easily from one system to another," he added. "With a common vocabulary, for example, clinical computer systems could gather bibliographic references relevant to a particular computer-based patient record."

Currently, a variety of vocabularies are used, including the MeSH (Medical Subject Heading) terms of the National Library of Medicine and the SNOMED classification scheme developed for pathology. Computer programs, such as the INTERNIST/CADUCEUS diagnosis system, also use vocabularies to describe symptoms, signs, test results and diseases.

At Yale, Dr. Miller and his colleagues will focus on liver disease, using a computer-based file describing nearly 10,000 liver biopsy specimens meticulously compiled under the direction of the late Dr. Gerald Klatskin, an internationally known liver specialist who was the David Paige Smith Professor Emeritus of Medicine.

"We will see how relationships between terms may help improve bibliographic retrieval," Dr. Miller said. "One of our aims is to facilitate, for example, bibliographic retrieval of papers relating to a clinical question in a more focussed, or semantically driven, way than the simple keyword retrieval now available," he added.

Collaborators include Jon S. Morrow, M.D., Ph.D., and Dr. Kenneth W. Barwick, both associate professors of pathology, and Dr. Caroline A. Riely, associate professor of medicine. They will work in conjunction with the Yale Liver Center directed by Dr. James L. Boyer, professor of medicine.

Besides Yale, groups at Harvard, the University of California at San Francisco and at the University of Pittsburgh and Carnegie Mellon University, collaboratively, are participating in the unified medical language project.

Scientists Quantify Clothing Comfort

What makes the same shirt feel soft in a dry climate yet scratchy in the tropics? How do fabrics affect our perceptions of comfort and discomfort in different environments?

At the School of Medicine, a team of investigators led by Dr. Jan A. J. Stolwijk, the Susan Dwight Bliss Professor and chairman of the department of epidemiology and public health, is looking at how the physical properties of clothing influence human behavior. The work is being conducted in collaboration with researchers at the John B. Pierce Foundation Laboratory.

"Textile makers say cloth has something called 'hand,' which is how it feels when you touch it," says Dr. Stolwijk. "We tried to see whether there was another characteristic of cloth that would affect how comfort-

able you would find it—and that would have to do with how much it pulls on the skin."

Their results, reported in a recent issue of *Textile Research Journal*, show that when the human body feels hot and moist, it perceives clothing texture more keenly; and as perceptions of clothing texture increase, physical comfort decreases.

The researchers say these results could have a significant impact on the design of cloth and clothing for specific uses—work uniforms, protective clothing and hospital bedsheets, for example.

The study marks the first time that researchers have been able to quantitatively relate perceptions of fabric texture and pleasantness to both the friction resulting from fabric rubbing over the skin surface and the amount of moisture on the skin.

The research team developed a new technique for measuring local skin moisture ("wettedness"). When this measurement rose above 30 percent, the measured coefficient of friction between the skin and fabric increased significantly, as did subjective ratings of clothing discomfort.

The researchers hypothesize that the skin surface may become more adhesive when it is wet. "We think the skin softens when we sweat, allowing fabric fibers to dig into the skin," says researcher Larry G. Berglund, Ph.D., a visiting lecturer in environmental technologies at the Yale School of Architecture. The rougher the fabric, the more it resists sliding, he says.

The research team also includes Andrea R. Gwosdow, Ph.D., a postdoctoral fellow in the department of epidemiology and public health; and Joseph C. Stevens, Ph.D., senior research scientist and lecturer in psychology.

Of the six fabrics tested in the study (worsted wool, brushed cotton, cotton, silk, linen and burlap), silk consistently was rated by research subjects as feeling most pleasant and least textured (smooth), no matter how wet the skin surface. The friction of silk against skin was measured to be less than half of the friction of the other fabrics under the same environmental conditions.

But Dr. Stolwijk says the smoothness that makes a fabric feel pleasant in warm and humid climates can make the same fabric uncomfortable in the cold.

"When you get into silk sheets in the wintertime," he says, "you feel cold; get into flannel sheets at the same temperature, and you feel warmer. The only difference is how the fabric fibers touch your skin." The nap of flannel keeps a portion of the cloth fibers away from the skin, says Dr. Stolwijk. Thus, less of the skin surface is cooled by the fabric. And he says the warmer the skin surface feels, the warmer the whole body feels.

NIH Funds Sperm Physiology Research on Male Infertility

The National Institute of Child Health and Human Development, a division of the National Institutes of Health, has awarded Dr. Gabor B. Huszar, director of the sperm physiology laboratory at the School of Medicine, a three-year grant of \$214,587 for male infertility research. The grant began in August. Dr. Huszar is a research scientist in obstetrics and gynecology and pediatrics.

Dr. Huszar is looking for biochemical markers that can predict sperm fertility. This research will concentrate on the activity of key enzymes of energy synthesis and utilization, such as creatine phosphokinase and dynein ATPase (the principal structural protein and enzyme in sperm motility), and the pool of compounds important in energy transport, such as creatine and creatine phosphate.

"We are measuring the activity of these enzymes in sperm specimens of men with



PHYLLIS JOFFE

Andrea R. Gwosdow, Ph.D., demonstrates the research apparatus used to measure the frictional force of fabrics, as she slowly pulls cloth across the forearm of Larry G. Berglund, Ph.D. (behind curtain).

normal and with low sperm counts, and we are looking at the correlation among sperm quality and the activity of these enzymes and the concentration of the energy transfer compounds. By a fractionation method based on sperm motility, we are preparing the best quality sperm population—those with the highest linear velocity,” says Dr. Huszar.

About 40 percent of the 10 to 12 million infertile couples in the United States have a male infertility problem. If that infertility is attributed to oligospermia—a low concentration of sperm—improved quality sperm specimens may enhance the chances for pregnancy by intrauterine insemination and in vitro fertilization, says Dr. Huszar.

For patients with normal sperm counts but sluggish sperm motility, Dr. Huszar is looking at biochemical methods of enhancing sperm motility.

Together with Neil J. MacLusky, Ph.D., associate professor of obstetrics and gynecology and pharmacology; Dr. Alan H. DeCherney, the John Slade Ely Professor of Obstetrics and Gynecology; Dr. Hasan Fakih, a former fellow in the department of obstetrics and gynecology, currently at Michigan State University; and Theo Wallimann, Ph.D., of the Institute für Zellbiologie, Zurich, Switzerland, Dr. Huszar has published the first major paper pursuing this line of research, entitled “Enhancement of human sperm motility and velocity in vitro: effects of calcium and creatine phosphate,” in the November 1986 issue of *Fertility and Sterility*.

Yale, State Officials Study Airborne Toxins

The Yale Comprehensive Cancer Center and the Connecticut Department of Environmental Protection will collaborate in a new program to identify and eliminate airborne toxins that contribute to cancer and birth defects.

In announcing the new program, Gov. William A. O'Neill said, “This cooperative program represents an innovative approach to the protection of our environment and public health that will tremendously benefit the citizens of our state.” It is the first program of its kind in the nation.

For this program, Mrinal K. Sanyal, Ph.D., research scientist in obstetrics and gynecology, has developed analytical techniques involving biological and human tissue testing. His new procedures greatly simplify the search for lethal toxins in air samples.

The DEP will monitor the biological effects of air pollutants on an ongoing basis at sites across the state and study the toxic effects of various air samples.

“The goal of this project is to identify locations around the state that have toxic substances in the air, to find the sources of those

substances and to clean them up,” Governor O'Neill said in late January.

Dr. Alan C. Sartorelli, director of the Yale Comprehensive Cancer Center, added, “This collaboration could have a significant impact on reducing the incidence of cancer and birth defects in our state. It is our hope that this important initial study will lead to further collaborative projects between Yale and the state Department of Environmental Protection.”

New Center Focuses on Pain Management

The Department of Anesthesiology has expanded its pain management program by establishing the Yale Center for Pain Management and naming Dr. Josef K. Wang as its first full-time faculty director. Dr. Wang, who left the Mayo Clinic in Rochester, Minn., to join the Yale medical faculty as professor of anesthesiology, set up the outpatient service to help patients who suffer from acute and chronic pain syndromes. The center is located in Hunter 4 at Yale-New Haven Hospital.

“If we can manage pain effectively in the early stages, then fewer patients will suffer from chronic pain problems,” says Dr. Wang. “An aggressive approach, which combines physical therapy, exercise, regional pain control and medications, will help people who have developed such problems as shingles or low-back or neck injuries,” the anesthesiologist says. “By managing pain earlier,” he contends, “individuals may avoid psychological, emotional and social problems that may result from delayed treatment.”

The Yale Center for Pain Management, which is part of the school's Faculty Practice Plan, employs a multidisciplinary approach encompassing anesthesiology, psychology, orthopaedics, neurology and neurosurgery.

Both outpatients and inpatients are treated for many types of pain, such as muscle, joint and cancer pain; headaches and pain following surgery, nerve injury, amputation or spinal cord injury. Nerve blocks, nerve stimulation, medications and cryoanalgesia—low-temperature freezing of nerve fibers—are among the methods used to relieve pain.

In the mid-1970s, Dr. Wang conducted basic research that resulted in pioneering techniques to inject narcotics into human spinal canals and control cancer pain. After 10 years, he says that the procedure has become standard practice for treating some three million patients annually throughout the world.

Some of this work was based on laboratory studies using spinal opiates to control pain that Dr. Luke M. Kitahata, professor of anesthesiology, conducted at Yale. This close association between basic science and

clinical work in Yale's anesthesiology department attracted Dr. Wang to the School of Medicine.

Dr. Wang has expanded his initial research on cancer pain management to include postoperative pain, labor-related pain and body trauma. Most recently, he's concentrated on alleviating pain associated with heart attacks, pulmonary embolisms and pancreatitis.

Dr. Wang cites several areas where more pain research is needed: massive burns, where patients may suffer pain for months until complete healing occurs; and kidney stones, where the excruciating pain may last only two or three days until individuals pass their stones.

A Kobe, Japan, native who became an American citizen in 1970, Dr. Wang had been associated with the Mayo Clinic and Mayo Medical School since 1974. He helped establish the Mayo Pain Clinic and served as its first director from 1980 to 1986, before coming to Yale in May 1986.

New Grant Expands Brain Cell Studies

Dr. D. Eugene Redmond Jr., associate professor of psychiatry at the School of Medicine, has been named program director for a three-year, federally funded study on how brain cell transplants effect a chemical model of Parkinson's disease.

For this work extending previous studies, Yale University will receive \$1.8 million from the National Institute of Neurological and Communicative Disorders and Stroke.

“Parkinson's disease is one of the few brain disorders in which the deficit is understandable and due to the loss of a particular kind of cell,” Dr. Redmond said. “By using a drug, MPTP, to produce a functional model by destroying these same cells, we eventually hope to learn whether we can restore function by replacing the lost cells through transplantation.”

The team's previous transplant work has shown that nerve cells will grow and, even more importantly, organize and establish themselves like brain cells. The team hopes to find out whether the transplanted fetal primate brain cells send and receive messages the same way as the original brain cells did, according to Dr. Redmond.

The research program, which involves biomedical scientists at Yale and the University of Rochester, includes four main projects. John R. Sladick Jr., Ph.D., professor and chairman of neurobiology and anatomy, leads a University of Rochester team that will study the neuroanatomical distribution of changes produced by MPTP and the location and connections established by the transplants.

Robert H. Roth, Ph.D., professor of psychiatry and pharmacology, serves as principal investigator for project two, in which his

team will use biochemical techniques to study transmitters and transmitter deficits.

As principal investigator for project three, Dr. Redmond and his colleagues will characterize the motor, behavioral and cognitive changes. Dr. Benjamin S. Bunney, professor of psychiatry and pharmacology, will use new electrochemical methods to study chemical changes in awake behaving animals for the fourth project.

The transplant work is conducted at the independent Axion Research Foundation Primate Facility in St. Kitts, a West Indian island where the African green monkeys are studied in a more natural environment. Tissue samples collected in St. Kitts are studied in New Haven and Rochester.

FACULTY NEWS

Dr. Bruce M. McDonald, clinical professor of pediatrics, has been appointed senior vice president for medical affairs at Bridgeport Hospital.

The Yale School of Medicine was well represented at the National Institute of Child Health and Human Development Child Health Day symposium on Oct. 6. **Dr. Ruth Whittemore**, clinical professor of pediatrics, presented a paper on "40 Years in Pediatric Cardiology." The symposium, held in conjunction with the beginning of the NIH centennial year, commemorated 100 years of pediatric research. Other Yale participants were **Dr. Charles Lowe** '45, special assistant to NICHD director Dr. John Crawford, and **Dr. Harry H. Gordon** '32 of Rye, N.Y.

The American College of Epidemiology presented its Abraham M. Lilienfeld Award to **Dr. Alfred S. Evans**, the John Rodman Paul Professor of Epidemiology and director of the World Health Organization Serum Reference Bank at Yale's department of epidemiology and public health.

The prestigious award was presented at the ACE annual meeting, held last fall at the School of Medicine.

Dr. Evans was recognized for his contributions to the field of epidemiology and to science and public health, which "epitomize the high standards of craft and professionalism demonstrated in the life and career of Dr. Abraham M. Lilienfeld."

Dr. Evans came to Yale in 1946 to work with Dr. Paul, but was recalled into the Army in 1950. In 1952, he went to the University of Wisconsin, where he became chairman of the department of preventive medicine and director of the state laboratory of hygiene. When Dr. Paul retired from Yale in 1966, Dr. Evans was called back to the School of Medicine to be professor of

epidemiology and director of the WHO Serum Reference Bank.

Joseph F. Hoffman, Ph.D., the Eugene Higgins Professor of Physiology, received the first Aser Rothstein Award Nov. 21 in Toronto. Dr. Hoffman, who gave a lecture on the occasion of Dr. Rothstein's retirement, was recognized for his contributions to red cell membrane physiology. This award was established to honor Dr. Aser Rothstein, director of the Research Institute of the Hospital for Sick Children in Toronto.

Dr. Dennis D. Spencer, professor of surgery (neurosurgery), has been appointed chief of the neurosurgery section in the department of surgery. He has been acting chief since November 1984.

Dr. Spencer, who completed residency training at Yale-New Haven Hospital and was named assistant professor of neurosurgery in 1977, has focused his work on epilepsy, specifically treating intractable conditions with surgery. Estimates indicate that 100,000 patients in the United States could benefit from such a procedure.

In December, Drs. Dennis and **Susan S. Spencer** traveled to Taiwan jointly on the Lennox Visiting Professorship sponsored by the Epilepsy Foundation of America. They presented lectures and began efforts to assist the department of neurology at Chang Gung Memorial Hospital in Taipei in setting up an epilepsy surgery program. Dr. Susan Spencer is an associate professor of neurology.

The Camille and Henry Dreyfus Foundation, Inc. has named **William J. McGinnis**, Ph.D., assistant professor of molecular biophysics and biochemistry, a Camille and Henry Dreyfus Teacher-Scholar. He is one of 12 young faculty members in the United States to receive the grants.

As a teacher-scholar, McGinnis will expand his work on the molecular genetics of pattern formation in animal development, using fruit flies as a model. He joined the Yale faculty in 1984. In January, the National Science Foundation selected McGinnis as one of 200 engineers and scientists to receive Presidential Young Investigator Awards, which are intended to help universities attract and retain outstanding young Ph.D.s who might otherwise pursue non-teaching careers.

Frank H. Ruddle, Ph.D., professor of biology and human genetics, and **Dr. Leon E. Rosenberg**, dean of the School of Medicine, have been selected to serve on the National Research Council Committee on Mapping and Sequencing the Human Genome. The committee also includes three Nobel Prize winners: Walter Gilbert, James Watson and Daniel Nathans.

Dr. Allen C. Steere Jr., associate professor of medicine, arranged a day-long

symposium at which four physicians from the Union of Soviet Socialist Republics participated. The December event was the return portion of a U.S.-U.S.S.R. exchange program sponsored by the National Institutes of Health and the U.S. Department of State. In 1985, Dr. Steere traveled to the U.S.S.R. to speak at the Third Congress of Rheumatology of the Soviet Union.

The Soviet delegation—two rheumatologists, a neurologist and an orthopedic surgeon—was especially interested in Lyme disease, a tick-borne infection that Yale medical researchers identified in 1975 in Connecticut. The disease now occurs in the Soviet Union.

The Soviet physicians, who spoke at the department of internal medicine grand rounds, expressed hope for peace, the discovery of new drugs to alleviate suffering, and greater cooperation between the United States and their own country.

Dr. Anne McB. Curtis, professor of diagnostic radiology, has been named acting chairman of the School of Medicine department of diagnostic radiology and acting chief of diagnostic imaging at Yale-New Haven Hospital. Dr. Curtis, who joined the Yale medical faculty in 1975, specializes in thoracic radiology.

A native of New York City, Dr. Curtis received a B.A. degree in 1964 from Radcliffe College and an M.D. degree cum laude in 1970 from Yale School of Medicine. She interned and took one year of residency training in internal medicine at Yale-New Haven Hospital, and completed a three-year residency training program in diagnostic radiology at Yale-New Haven Hospital.

She fills an opening created Oct. 1 when Dr. Richard H. Greenspan was named to the new position of associate dean for clinical affairs in the medical school.

Dr. John S. Ebersole, associate professor of neurology, began a one-year term as treasurer of the American Epilepsy Society at the 40th anniversary meeting last fall in Seattle. He also presented a paper on the mechanisms of social epileptogenesis at the EEG course.

Dr. Pasko Rakic, professor of neuroscience and chairman of the section of neuroanatomy, has been presented the Karl Spencer Lashley Award for his research on development of the central nervous system. Established in 1957 by a gift to the American Philosophical Society, the award is given periodically to recognize "useful and significant" work in neurobiology.

Since 1965, Dr. Rakic, the Doris McConnell Duberg Professor of Neuroscience, has been working on the mechanisms of neuronal proliferation, migration and development of synaptic connections in the brain.

Among contributions cited at a fall cere-

mony in Philadelphia were the concept of membrane surface mediated neuronal-glial interactions in neuronal migration, discovery of neuronal abnormalities due to defects in single genetic loci in neurological mutant mice, and the role of selective elimination of supernumerary neurons and axons in formation of synaptic connections during pre- and postnatal development.

The American Association of Blood Banks presented its 1986 Distinguished Service Award to **Dr. Joseph R. Bove**, professor of laboratory medicine at the School of Medicine and associate director of clinical laboratories at Yale-New Haven Hospital, in recognition of his service as chairman of the association's committee on transfusion-transmitted diseases.

Dr. Bove has been instrumental in AABB efforts to create comprehensive policies on infectious diseases, especially AIDS. In addition to his work as a consultant for the FDA Blood Products Advisory Committee, which he chaired from 1981 to 1983, Dr. Bove is chairman of the Connecticut State Department of Health Advisory Committee on Plasmapheresis and Blood Banking. He was a member of the Food and Drug Administration Panel for Blood and Blood Derivatives and is past president of the New England Transfusion Society.

Dr. Provence Named Professor Emeritus

Dr. Sally Provence retired on Oct. 1, 1987 and was named professor emeritus in the Child Study Center and pediatrics. Dr. Provence began her career at Yale in 1949 as instructor in the Child Study Center and pediatrics.

She created and designed the Child Development Unit in the Child Study Center for the study and treatment of younger children; she served as its director from 1951 to 1978. The wing that houses the unit will be named the Provence-Harris Wing in honor of Dr. Provence and Irving B. Harris, a child and family advocate who generously supports the Child Study Center.

Dr. Provence is also a founding director of the National Center for Clinical Infant Programs; she currently serves as its president.

She has been involved continuously in teaching, clinical research and clinical service, and has been particularly interested in applications of research for the improvement of services to children and parents.

She is the author of many articles and several books on scientific and clinical aspects of child development.

Dr. Kashgarian to Edit YALE MEDICINE

Dr. Michael Kashgarian, professor of pathology, has been named editor of **YALE MEDICINE**, the School of Medicine's alumni magazine published three times a year. He succeeds Dr. Arthur Ebbert Jr., deputy dean and professor of medicine, who has relinquished his editorial duties.

Dr. Kashgarian joined the School of Medicine faculty in 1964 as assistant professor of pathology, and was named professor in 1977. He is vice chairman of the pathology department, a position he has held since 1976. He also served as associate chief pathologist at Yale-New Haven Hospital from 1976 to 1985.

A New York City native, Dr. Kashgarian received an A.B. degree in 1954 from New York University and an M.D. degree in 1958 from Yale School of Medicine. He took residency training at Barnes Hospital in St. Louis and Yale-New Haven Hospital. He also was a research fellow in renal physiology at the University of Goettingen.

Much of Dr. Kashgarian's research relates to the pathobiology of renal disease. Studies include the morphological correlates of ionic transport, the role of the

glomerular mesangium in chronic glomerular sclerosis and the mechanisms of recovery from acute renal injury. He has published more than 160 articles in scholarly journals.

Active on numerous editorial boards and professional organizations, Dr. Kashgarian served as president of the Connecticut Society of Pathologists in 1975 and is a fellow of the American Society of Clinical Pathologists and the College of American Pathologists.

At Yale, Dr. Kashgarian has served as chairman of the medical school's committee on the well being of students and as a member of the affirmative action committee. He also is a fellow of Jonathan Edwards College. In 1983-1984, he was president of the medical staff at Yale-New Haven Hospital.

Physiologists Win Top Awards

Two medical faculty members received the top awards at the 19th annual meeting of the American Society of Nephrology held Dec. 7-10 in Washington, D.C.

Dr. Emile L. Boulpaep, professor and chairman of the department of physiology, received the Homer W. Smith Award given by the ASN and the New York Heart Association for outstanding achievements in renal physiology.

For his award address, Dr. Boulpaep discussed "Biomembranes and Epithelial Pathways in Renal Tubule Transport."

An electrophysiologist, Dr. Boulpaep has made fundamental contributions to understanding electrical current flow and electrical potential generation in single renal tubules. This has significantly contributed to understanding how the kidney handles water and ions.

Dr. Boulpaep received an M.D. degree in 1962 from the University of Louvain in Belgium and an honorary master of arts degree in 1979 from Yale University. He joined the Yale medical faculty in 1969 as assistant professor of physiology, and 10 years later was named professor and chairman of the department of physiology.

Walter F. Boron, M.D., Ph.D., associate professor of physiology, was presented the second annual Young Investigator Award given by the ASN and the American Heart Association. The award goes to an individual under age 41 for outstanding nephrologic research.

For two consecutive years, Yale faculty members have won this award. Last year, Dr. Peter S. Aronson, associate professor of medicine and physiology, received the same award.



The wing that houses the Child Development Unit will be named after Dr. Sally A. Provence (right) and Irving B. Harris of Chicago, a 1931 Yale College graduate and one of the nation's leading advocates for children and families. They and others also founded the National Center for Clinical Infant Programs.

ALUMNI NEWS

Dr. Beatrix A. Hamburg '48, professor of psychiatry and pediatrics, Mount Sinai School of Medicine, City University of New York, has been elected to the American Association for the Advancement of Science board of directors. Her four-year term began Feb. 19.

Dr. Ian C. MacLean '65 HS, associate professor, department of rehabilitative medicine, Northwestern University Medical School and a member of the attending staff at the Rehabilitation Institute of Chicago, was elected to the American Academy of Physical Medicine and Rehabilitation board of governors at its 48th annual assembly in October. After five years of service, the post leads to the presidency of the organization.

Dr. David H. Shapiro '65 HS, of Clearwater, Fla., was elected to the American College of Surgeons board of governors as a governor-at-large from Florida. He began his three-year term Oct. 23. Dr. Shapiro practices general and vascular surgery in Clearwater and is an assistant clinical professor of surgery at the University of South Florida College of Medicine.

W.W. Norton & Co. recently published *The Crown Prince*, a novel by **Dr. John Barchilon** '65, who practices sports medicine in Los Angeles. The book is based on the life of the legendary concert pianist Paul Wittgenstein. Set in Vienna, Paris and Berlin, it is also the story of Maurice Ravel and the famous *Concerto in D*.

Dr. Robert M. Pearl '72, associate clinical professor, plastic and reconstructive surgery, Stanford University, was presented the Robert H. Ivy Society Award at the American Society of Plastic and Reconstructive Surgeons (ASPRS) annual scientific meeting in Los Angeles, Oct. 27. The award, which recognizes excellence in preparation, presentation and delivery, is given to the physician whose presentation was selected as best during the ASPRS annual meeting the previous year. Dr. Pearl received the award for his paper on "Surgical Management of Volumetric Changes in the Bony Orbit."

Dr. Robert J. DeLorenzo '74, professor and chairman, department of neurology, Medical College of Virginia campus of Virginia Commonwealth University, has received a Javits Neuroscience Investigator Award for research into the role calcium plays in brain cells, particularly cells damaged by stroke and epilepsy. The award honors the late U.S. Sen. Jacob K. Javits of New York.

Dr. John J. Kao '77 will be promoted to associate professor of business administration at the Harvard University Graduate School of Business Administration, effective June 1987.

In September, **Dr. Jean L. McMahon** '44 HS retired as director of rehabilitation services at the Children's Hospital at the University of Colorado School of Medicine in Denver.

Dr. Bernard Robert Rowen '43, of Tacoma, Wash., has retired from his practice in internal medicine.

Gov. William A. O'Neill has appointed **Dr. Frederick G. Adams** '70 M.P.H. to be the commissioner of health services for Connecticut. A Hartford dentist, Dr. Adams has served as dean of the University of Connecticut School of Allied Health Professions and vice president for student affairs and services at the University of Connecticut in Storrs. His appointment was effective March 1.

Dr. John P. McGovern '46 HS, of Houston, has received the 1986 Distinguished Alumnus Award of Alpha Epsilon Delta, the national premedical honor society. A past president of the American College of Allergists, Dr. McGovern founded the McGovern Allergy Clinic in Houston. He also holds faculty appointments at the Baylor College of Medicine and all six degree-granting schools in the University of Texas Health Science Center at Houston.

Dr. Gary L. Schaer '79 has been elected to fellowship in the American College of Cardiology. He is an assistant professor of medicine at Georgetown University Hospital, Washington.

Dr. William Barry Gault '64 has been appointed to the NeWell Health Corporation Board of Overseers, in Newton, Mass. Dr. Gault, a practicing psychiatrist, is coordinator of the psychiatric training program for Tufts University medical students at Newton-Wellesley Hospital, and he is chief of intensive treatment at Bournewood Hospital.

Dr. Shulman Named New NIAMS Director

Dr. Lawrence E. Shulman '45 Ph.D. (public health), '49 M.D. has been appointed director of the new National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS).

As director, Dr. Shulman will oversee the conduct and support of federal programs in biomedical research and research training in arthritis and musculoskeletal and skin diseases.

He was acting director of NIAMS since its establishment last April, and previously was director of the Division of Arthritis, Musculoskeletal and Skin Diseases at NIH.

An internationally known rheumatologist, Dr. Shulman's research has focused on rheumatic diseases, such as lupus erythematosus and scleroderma. In 1974, he discovered eosinophilic fasciitis, also called Shulman's disease. He has written more than 100 scientific papers and numerous sections in major textbooks of rheumatology and internal medicine.

Dr. Shulman was president of the American Rheumatism Association in 1974-75, and in 1979, the Arthritis Foundation gave him its distinguished service award. For the past four years, he has been president of the Pan American League Against Rheumatism.

NEW BOOKS

Aging Myths: Reversible Causes of Mind and Memory Loss, by Siegfried J. Kra, M.D., associate clinical professor of medicine. McGraw-Hill, Inc., (New York, N.Y.) 1986.

Ambulatory Surgery and Office Procedures in Head and Neck Surgery, edited by Keat-Jin Lee, M.D., assistant clinical professor of surgery, and Carol Stewart, Southern New England Telephone Co. Harcourt Brace Jovanovich Publications, (New York, N.Y.) 1986.

Bypass Surgery: Who Needs It?, by Siegfried J. Kra, M.D., associate clinical professor of medicine. W.W. Norton & Co., Inc. (New York, N.Y.) 1986.

Doctors, Patients, and Placebos, by Howard M. Spiro, M.D., professor of medicine. Yale University Press (New Haven, Conn.) 1986.

Ectopic Pregnancy, edited by Alan H. DeCherney, M.D., John Slade Ely Professor of Obstetrics and Gynecology. Aspen Publishers, Inc. (Rockville, Md.) 1986.

Foundations of In Vitro Fertilization, edited by C.M. Fredericks, Ph.D., Medical University of South Carolina, Alan H. DeCherney, M.D., John Slade Ely Professor of Obstetrics and Gynecology, and J.D. Paulson, M.D., Alexandria Infertility Associates in Va. Harper & Row Publishers, Inc. (Washington, D.C.) 1986.

The Nurturing Father, by Kyle D. Pruett, M.D., associate clinical professor in the Child Study Center and psychiatry. Warner Books, Inc. (New York, N.Y.) 1986.

Reproductive Failure, edited by Alan H. DeCherney, M.D., John Slade Ely Professor of Obstetrics and Gynecology. Churchill Livingstone, Inc., (New York, N.Y.) 1986.

Reproductive Surgery, edited by Alan H. DeCherney, M.D., John Slade Ely Professor of Obstetrics and Gynecology, and Mary Lake Polan, M.D., associate professor of obstetrics and gynecology. Year Book Medical Publishers, (Chicago, Ill.) 1986.

The Crown Prince, a novel, by John Barchilon, M.D. '65 of Los Angeles, Calif. W.W. Norton & Co., (New York, N.Y.) 1986.

OBITUARIES

Marguerite Lerner, M.D.

Dr. Marguerite R. Lerner, professor of dermatology from 1973 to 1980, died March 3 at her home in Woodbridge, Conn. after a long illness. She was the wife of Dr. Aaron B. Lerner, professor of dermatology.

Dr. Lerner was born in Minneapolis on May 17, 1924. A summa cum laude graduate of the University of Minnesota in 1945, she attended Johns Hopkins Medical Institutions, Baltimore, and received her M.D. degree from Case Western Reserve University School of Medicine, Cleveland, in 1950.

Dr. Lerner came to Yale in 1957 as clinical instructor in dermatology, becoming assistant clinical professor of dermatology in 1960, associate clinical professor in 1966 and professor of dermatology in 1973. She was instrumental in setting up dermatology services for the Yale Health Plan at University Health Services and served as chief of dermatology services from 1971 to 1980.

She wrote 15 children's books, and in 1965 was awarded the Brotherhood Award for *Red Man, White Man, African Chief*, a book on skin color. She also wrote *Medical School: The Interview and the Applicant*, and was co-author, with her husband, of *Dermatologic Medications*.

In 1980, in recognition of her talents as an author of children's books, her family established the Marguerite Rush Lerner Award, which is given annually to a graduating medical student for outstanding creative writing.

Besides her husband, she is survived by four sons, State Rep. Peter Lerner of Woodbridge, Dr. Michael Lerner of Hamden, Dr. Ethan Lerner of Boston, and Seth Lerner of New Haven; a brother, Gilbert Rush of Los Angeles; and a sister, Pamela Smith of San Diego.

Clarence D. Davis, M.D.

Dr. Clarence D. Davis, professor emeritus of obstetrics and gynecology, died Jan. 26 in San Diego, Calif. He was 74.

Dr. Davis began his career at Yale as associate professor of obstetrics and gynecology in 1957 and was professor of obstetrics and gynecology from 1964 until 1978, when he was named professor emeritus.

While in Connecticut, he was an obstetrical consultant to the maternal-child health section of the state Department of Health Services, lecturing and evaluating services at state hospitals. He is survived by his wife, Beatrice McKeller Davis; two sons, Daniel and Peter Davis, and a daughter, Susan Davis.

Donald Silverman, M.D.

Dr. Donald R. Silverman, assistant clinical professor of medicine since 1977, died at his home in Westport, Conn. on Dec. 13. He was 48.

Dr. Silverman was associated with several area hospitals, and was chief of the section of renology, department of medicine, at Bridgeport Hospital.

He is survived by his wife, Lynne Nolan Silverman; his mother, Helen Weinstein Silverman; a son, Neal Silverman; a daughter, Margaret Silverman; and a brother, Leon Silverman.

Harold G. Higgins, M.D.

Dr. Harold G. Higgins, assistant clinical professor of medicine from 1955 until 1974, died Sept. 25 in Seattle. He was 76.

Dr. Higgins, an internist in New Haven for many years, was a World War II Army Medical Corps veteran; he received three bronze stars while serving as a battalion surgeon in Europe.

Besides his wife, Elizabeth McGuire Higgins, he is survived by three daughters and a son.

IN MEMORIAM

Stella Booth, M.D. '62 M.P.H.
(formerly Stella Wood)
June 8, 1986

James Rae Arneill Jr. '29 M.D.
September 22, 1986

James C. Hart '30 M.D.
December 20, 1986 '39 M.P.H.

Jean P. Davis '43 M.D.
October 2, 1986

Chester S. Bowers '48 M.P.H.
July 27, 1986

Boy Frame, M.D. '48 HS
August 1986

Ralph M. Gofstein '51 M.D.
August 1986

James R. Durham '52 M.D.
October 31, 1986

William R. Metzger, M.D. '57 M.P.H.
July 28, 1986

Frederick Snyder, M.D. '57 HS
January 26, 1986

THE CAMPAIGN FOR THE YALE SCHOOL OF MEDICINE

Gerontology Professorship Established

The Department of Internal Medicine has a newly endowed professorship, thanks to a grant from The Humana Foundation of Louisville. The Humana Foundation Professorship will support a senior faculty member in the field of gerontology.

The strength of the Yale geriatrics program was an important factor in the decision to award the grant, according to Sue B. Dorn, associate vice president for development and director of medical school development. One of the aims of the program is to keep elderly patients as independent as possible, thus limiting the care burdens on their families and communities. By retaining their independence, patients spend their later years with a greater sense of fulfillment and dignity.

The Humana Foundation was established in 1981 by Humana, Inc., which owns and operates more than 80 hospitals in the United States and overseas. A Yale Law School alumnus, David A. Jones '60, was a co-founder of Humana, Inc. and serves as its chairman and chief executive officer.

F. David Rollo, M.D., Ph.D., is senior vice president for medical affairs of Humana, Inc. In a letter to Dean Leon E. Rosenberg, Dr. Rollo expressed the foundation's eagerness to work with the school "in assuring that the Yale geriatric medicine model is appropriately appreciated and utilized in community medical centers."

New Haven Foundation Grant to Aid Women

Yale's Comprehensive Cancer Center has received a grant of \$144,000 to purchase a van for a mobile mammography screening program. The George W. Mixer Fund of the New Haven Foundation provided funds for the purchase, and the Connecticut Division of the American Cancer Society awarded a grant of \$75,000 to equip the unit. Yale-New Haven Hospital is providing additional support for the project.

The program will provide convenient, inexpensive screening for early detection of breast cancer. At least 6,000 women throughout Connecticut will be examined yearly at a cost of no more than \$50 each. It will be the first mobile mammography unit in the New York-New England area, and the only mobile facility offering mammography at no cost to women unable to pay. Phyllis J. Kornguth, M.D., Ph.D., assistant professor of diagnostic radiology, developed the program.

The New Haven Foundation is the eleventh largest community foundation in the United States, and awards nearly \$4 million in grants annually.

Ogilvie Family Fund Established

John B. Ogilvie's wish to honor family members who have attended Yale has been fulfilled by his creation of an endowed loan fund in the School of Medicine. Dr. Ogilvie is a Sheffield graduate of Yale (B.S. 1931) and an alumnus of the School of Medicine (M.D. 1934). Two of his sons, John G. Ogilvie '64 and Donald Ogilvie '65, attended Yale College.

After 53 years in the field of general surgery, John B. (Jack) Ogilvie retired from practice this year, which will enable him to devote more time to The Campaign for the Yale School of Medicine. He is a member of the National Volunteer Committee for the campaign, and previously served as president of the Association of Yale Alumni in Medicine.



BILL CARTER

This wrought iron grillwork adorns the second-floor balcony in the Medical Historical Library, which will be part of an expanded medical library funded through the campaign.

Progress Report Summary Gifts and Pledges As of February 15, 1987

PROJECTS

Professorships	11,218,631
Fellowships/Financial Aid	3,642,630
General Endowment	6,458,963

Total Endowment \$ 21,320,224

Center for Molecular Medicine	20,100,000
Medical Library	8,010,000
Magnetic Resonance Center	3,075,100
Modernization of Labs	3,858,374
Other	1,323,545

Total Facilities and Equipment \$ 36,367,019

Total Programs and Research \$ 44,552,227

TOTAL \$102,239,470

ALUMNI REPORT

Incoming mail to the Office of Alumni Affairs was abundant last summer and autumn, largely as a product of alumni questionnaire responses generated by the Kissick-Spinelli paper. (The questionnaire analysis is published in this issue.)

Approximately 50 items of personal news were received for publication in a column that began in the February issue of the Yale Alumni Magazine. Since magazine space is limited, some items may be delayed until subsequent issues. News items of a professional, rather than personal, nature will continue to be published in YALE MEDICINE. All alumni are invited to send items to the Office of Alumni Affairs. Address changes are especially requested.

Most gratifying were the invitations from approximately 600 alumni who offered overnight bed and board to third- and fourth-year Yale medical students interviewing for residency training positions in hospitals in 38 cities. The cities or their suburbs include: New York, Boston, Pittsburgh, Miami, Baltimore, San Francisco, Durham, N.C.; Torrance, Calif.; San Diego, Houston, Seattle, Portland, Maine; Minneapolis, Portland, Ore.; Livingston, N.J.; Chicago, Providence, Los Angeles, Burlington, Vt.; Denver, Nashville, St. Louis, Dallas, Rochester, N.Y.; Ann Arbor, Montreal, Washington, Irvine, Calif.; Cleveland, Buffalo, Rochester, Minn.; Cincinnati, Tucson, Bangor, Maine; Birmingham, Gainesville and Toronto.

Students generally spend an average of \$1,500 during the interviewing process. The gracious hospitality of Yale alumni enables students to save money. At the same time, communication between graduates and current students is increased. These multi-generational exchanges have proven to be quite stimulating for all participants, and we hope to expand the program to other cities.

One of the most successful visits on the "Dean's Tour" occurred Nov. 21 in San Francisco, where Dean Leon E. Rosenberg presented his "State of the Yale School of Medicine" address to 83 attendees.

A. John Anlyan, M.D. '45, of San Francisco and Lawrence G. Crowley, M.D. '44, of Palo Alto served as chairmen of the elegant dinner and reception at the Olympic Club, which preceded Dr. Rosenberg's presentation. The event's content and social aspects were so well received and appreciated that the group requested a return visit by a faculty member this fall.

Tentatively scheduled to visit the Bay area group on Nov. 6 is Dr. Stephen G. Waxman, chairman of the department of neurology. Dr. Waxman's research addresses the molecular nature of the nervous system's response to injury, trauma and multiple sclerosis.

The Bay area alumni, co-chaired by Drs. Anlyan and Crowley, are a well-organized satellite alumni group.

In addition to Drs. Anlyan and Crowley, the executive committee includes: Drs. Malcolm Bagshaw '50, Robert A. Chase '47, Chandler Dawson '56, Lee E. Farr '32, Roger P. Friedenthal '62, W. Keith Hadley '59, Avi J. Hettner '76, Jack Levin '57, Bennett F. Markel '57, Robert L. Mitchell '64, William M. Rogoway '61, Richard A. Sinnott Jr. '53 and Joseph F. Walter '67.

Dr. Stephen Waxman addressed the Yale Club of Washington, D.C. on the topic "Sparks, Soup and Molecules: How the Nervous System Copes with Injury." A banner number of undergrad and medical alumni attended March 3 at the City Tavern Club. After his talk the medical group hosted an informal supper, with Dr. Waxman as guest. Muriel D. Wolf, M.D. '59, of Children's Hospital in Washington, is president of the Yale Club of Washington, D.C.

In addition to the student-aid initiatives previously mentioned, the alumni office has helped the second-year class achieve alumni attendance at the class show. A spring reception is planned for all medical students, with New Haven and other regional alumni helping to serve as hosts. Efforts to increase such liaisons will continue. Identifying leadership potential as alumni at the student level is an initiative to be pursued. Student officers to serve alumni class functions already have been named in the third- and fourth-year classes this year.

A core group of house staff/fellows has begun deliberating their special status as members of the Association of Yale Alumni in Medicine. Included on this charter house staff/fellows subcommittee are: Drs. Nina R. Horowitz HS '79-84, assistant clinical professor of surgery; Richard Selzer HS '53-55, '57-60, assistant clinical professor of surgery; John N. Forrest Jr. HS '64-67, '69-70, professor of medicine; and E. Maurice Wakeman HS '60-63, assistant clinical professor of pediatrics.

The subcommittee, organized by Dr. Samuel D. Kushlan '35, clinical professor of medicine, will seek to define the group's

role in reunions, evaluate the need for separately structured reunions and update and correct deficient alumni records.

During the weeks ahead, the reunion of 1987 will occupy the energies of the Alumni Office. Please note the special events planned for the June 5-6 reunion weekend:

1. Special senior alumni, including members of the 65th, 60th and numerous members of the 55th reunion class, will be honored at the annual meeting on June 6.

2. The 50th reunion class, as well as the 55th and 5th reunion group, will be honored at the Friends of the 50th Dinner on Saturday evening at the Graduates Club.

3. A special Friday evening dance, first held last year, will be moved to Edward S. Harkness Hall on the medical school campus. Members of the entire hospital-medical school family will be invited to attend. Last year, the ambience of a family reunion was achieved.

4. The Friday evening dinner, so successful last year, will be repeated, again in the President's Room at Woolsey Hall. This is open to all returnees who need dinner reservations.

See everyone at reunion!

Nicholas P.R. Spinelli, M.D. '44
Director of Alumni Affairs

Highlights: Medical Alumni Reunion Weekend

Friday, June 5

8 a.m. *Medical alumni registration*
1:30 p.m. *Faculty seminars*
4 p.m. *Yale School of Medicine Special Address*
 Keynote Speaker: Lowell P. Weicker Jr.
 United States Senator
5 p.m. *Dean's reception*
7 p.m. *Medical alumni reunion dinner*
9 p.m. *Yale School of Medicine reunion dance*

8 a.m. *Yale School of Nursing annual alumnae college*
 Keynote Address: Mary Mundinger, dean, School
 of Nursing, and associate dean, faculty of medicine,
 Columbia University
10:30 a.m. *Panel discussion*
2 p.m. *Case study and discussion*

9:30 a.m. *AYAPH and YUHAAA annual workshops**
11 a.m. *Panel discussions*
1:30 p.m. *AYAPH and YUHAAA Keynote Address: Robert B. Helms,*
 Ph.D., assistant secretary for planning and
 evaluation, U.S. Department of Health and Human
 Services, Washington
2:15 p.m. *AYAPH and YUHAAA combined annual meeting*

**Association of Yale Alumni in Public Health (AYAPH)*
Yale University Hospital Administration Alumni Association
(YUHAAA)

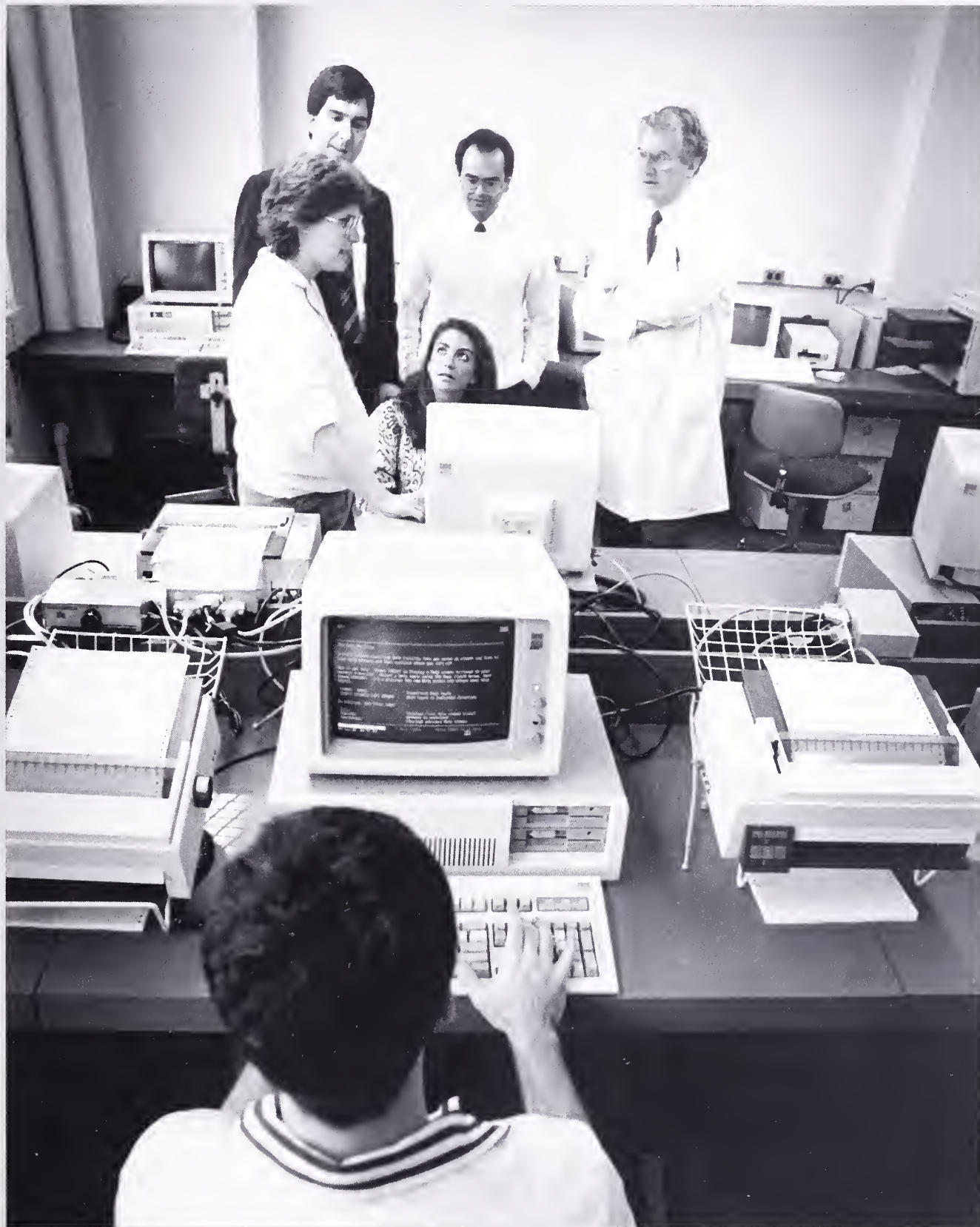
Saturday, June 6

9:15 a.m. *Greetings and remarks: Benno C. Schmidt Jr.*
 President, Yale University
10 a.m. *Faculty seminars*
11:30 a.m. *Annual meeting of the Association of Yale Alumni in*
 Medicine. Distinguished Service Awards presentation
12:30 p.m. *Sherry and buffet luncheon*
2 p.m. *Yale School of Medicine Class of 1962 reunion seminar*
3 p.m. *School of Medicine Alumni Fund class agents meeting*

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New Haven, Connecticut 06510

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Aesculapius Meets the Computer

YALE MEDICINE

Alumni Bulletin of the School of Medicine: Fall/Winter 1987-88; Vol. 22, No. 1

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YALE MEDICINE is distributed to members of the Association of Yale Alumni in Medicine, and students and friends of the School of Medicine.

Communication may be addressed to Dr. Michael Kashgarian, editor; c/o the Office of Public Information, 350 Congress Ave., New Haven, Conn. 06510

Dr. Michael Kashgarian, professor of pathology, is editor of YALE MEDICINE. The magazine is produced by him and the Office of Public Information: Helaine Patterson, director; Gregory Huth, publications editor; Eileen Dubois, staff assistant; and Leah D'Eugenio, senior administrative assistant. The tri-annual magazine is prepared in cooperation with the Alumni and Development offices at the School of Medicine, with assistance from the Yale Printing Service.

Cover photograph: Lynna Stone-Infeld, user support specialist (standing at left), explains how to access the School of Medicine's mainframe computer from a newly opened room in Lauder Hall. The computer hardware was donated by IBM Corporation. Standing at her left are Marc Silverberg and Alex Ortiz, second-year medical students, and Dr. Robert Gifford, associate dean of students. Seated in front of them is Anne Smith, a first-year student. The student in the foreground is unidentified.

Photo credit: Bill Carter.

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SPLICING IN THE MD-GENE

by Howard M. Spiro, M.D.

(Delivered at the Yale School of Medicine graduation,
May 25, 1987)

It is always a pleasure to talk to colleagues, and from this morning on you are fellow physicians. Congratulations to you all and the best to those around you. Enjoy this day while you can. Next month comes internship, residency, the PGY days that rob house-officership of its glamor. Difficult and responsible times lie ahead, even if sometime you join the chorus of the blessed singing praises to the great god Ortho-Ophtho-Oto or pray with the imagers at their icons in the radiology department. For now, relax, enjoy yourselves, vacation, don't study the *Washington University Manual*. You've earned some good time off. That "M.D." you practiced signing a few times over the past months does belong after your name.

Dean Rosenberg and Dr. Spiro.

That is really what I want to talk about, the splicing of the M.D. gene into your genome. Graduate from medical school and you are like those *E. coli*, forever making interferon or fertilizer, working endlessly, your identity forever changed. I was graduated from medical school 40 years ago this month, and I have to confess some trepidation at standing here, for I would have greeted with skepticism bordering on scorn any pronouncements from a physician who had graduated 40 years before me, in "aught seven." But one of the pleasures of academic life is the illusion that "students" keep you young in outlook, even as I bump against a horizon you can hardly glimpse. Another is the chance to do different things at different times,



SVEN MARTSON

to share the ecstasy of laboratory pursuits when you are young, the joy of the clinic and the bedside in middle life, and finally to find happiness in the distance that the library lends.

IDENTITY CHANGE

Today marks the greatest change in your identity in your entire life, even though more of you in this class than in many before have had other and sometimes distinguished careers. You may marry or divorce, change companions several times, write poetry or win research prizes. In academic life you may be transmogrified into an assistant or associate professor, and ultimately you may even take on a new name with a named chair. You may even become a chair. Several of my friends and contemporaries have turned into plaques, lectures, auditoriums, and one or two have even become buildings. As a gastroenterologist, I hope to become a dining hall, or at least a salad bar, although some have suggested a sigmoidoscopy suite.

In any case, this morning you were medical students and now you are physicians and for the rest of your lives you will sign "M.D." after your name and answer the phone as "Dr. So and So." You may claim, ungrammatically and inaccurately, "My name is Dr. So and So." You may cling to the title when you have retired 40 or 50 years hence. So often, in the warmth of the winter lecture series in Florida, retired doctors sit in the front row in clean sport shirts and very quickly fall asleep. They are retired, but they come to medical lectures not so much, I think, to keep up on what is new, as to reaffirm their only identity: "We are still physicians." Most keep up their CME credits, to keep their licenses active. That Fountain of Youth has many fonts in Florida.

In graduating you run the risk of abandoning your identity as a person for that of a physician. The wide-eyed enthusiast who was a dancer or an athlete, a chemist or a writer, or more often a college student who studied civilization and culture, is funneled into medical school to learn more cellular than human matters. The still occasionally innocent medical student is quickly filtered into the "burned out" PGY 3, who turns finally into a subspecialist. On the tombstone of a friend I fear to find, "He was born a man, but lived and died a gastroenterologist." What you must fear is that gradually the person who is still you today will become entombed in the persona of the doctor. Like the ugly toad with yet a precious jewel in its head, we physicians wrap ourselves in white coats or in green operating gowns, to fatten, stiffen and forget that we were people once. We grow pompously so full of ourselves that it is very hard to find that precious jewel in the head, even by MRI. Make interferon if you must, but remember that we are all still *E. coli*.

Several observations over the past few years have strengthened my conviction that we doctors are still just people taking care of people. The first is the placebo response; the second, what happens when a doctor thinks he is primarily a Scientist uncovering The Truth; and the third is what happens when a doctor falls sick. A brief moment on each.

PLACEBO RESPONSE

As a doctor you can give a pill of no discernible pharmacological activity to someone in pain and the patient will feel better. Regardless of whether relief comes from electric changes in the neurobiologic network, or floats in on the tides of enkephalins or the opiate league, pain is relieved, in part because the pa-

tient expects that your pill will help, that you will help. Such a response celebrates healing, to remind us that physicians treat more than microsomes. The lens of the placebo shows that patients are more than a collection of organs or subcellular particles; they respond to symbols, to love. They get better when someone cares. Someday, all disease will disappear when science wins its final triumph, but until then the goal of medical practice remains the relief of pain and suffering. Science, by the way, is a means to that end and not the end in itself. We sometimes forget that in medical school when doctors are decked out, disguised as scientists. The goal of medicine is the care of patients, always. Only sometimes can we cure, even in CCUs and ICUs. The relief that a placebo brings should remind you that physicians are more than conduits of power, pills and procedures.

Your words and reassurance, the power of your person, which help to make up the therapeutic alliance of doctor and patient, will sometimes be as important as your hands writing out prescriptions or even transplanting livers and hearts. The split between science and intuition, between reason and romanticism, of which you are so uncomfortably aware in medical school, can be annealed in the care of patients. Diseases, what the physician finds, are not helped by placebos, and the dualism may be uncomfortable, but illness, what the patient feels, what the patient fears, is relieved. Patients are more than their images. Cure depends on science, and care on art; but poetry may sometimes physic your patient better than science and you will often treat despair along with disease. The relief that comes from a placebo stands for the promise that you make here today, to be a doctor, taking care of people.

PHYSICIAN AS SCIENTIST

Since some of you will follow research careers, I will remind you of Professor Hans Eppinger. A world-famous professor in Vienna whose papers are still quoted, at the time of the Nazi occupation of that city, Eppinger kept his position in the First Clinic even though he was of Jewish descent. He visited the concentration camps and ignored the evil around him. As the Second World War progressed, German submarines were being destroyed so fast that interest turned to whether sea water could be treated to be made palatable to sailors torpedoed and dying of thirst on their life rafts. Experiments on volunteers had already shown that not to be the case, but the experiments were not beyond doubt. Eppinger insisted that prisoners in the concentration camps be starved and forced to drink treated sea water to get what today we would call "statistical validity." He wanted to be sure of the truth. The experiments, duly carried out on gypsies, learned nothing new.

Summoned after the war to the Nuremberg trials for war criminals, Professor Dr. Eppinger killed himself. He left no message of remorse, or at least none that his successors in Vienna will tell about. By the standards of his time Eppinger was not an evil man, and he was not unique. Even in the 1940s and '50s at Harvard—and at Yale—my colleagues and I carried out experiments in which our goal was to find the answer to a question and not necessarily to help the patients. On this happy day, I do not want to dwell on such unpleasant matters, but I must comment on the effort to expunge such deeds from memory.

Because I remembered Eppinger's name from my own medical school days, a few years ago I was appalled to find that a prize in his memory was being given out in Germany. A number of famous gastroenterologists had rejoiced in that prize, spon-



In a break with tradition, Dean Rosenberg stepped aside and outgoing Deputy Dean Arthur Ebbert Jr. presented members of the Class of 1987 with their diplomas.

sored by a German pharmaceutical company, without apparently knowing about Eppinger's dark side. His research was celebrated, but his person had been forgotten. Because I had been much moved as a medical student by Eppinger's complicity, I protested, and finally the prize was withdrawn. (Your classmate Jay Horwitz helped me in that endeavor.) My satisfaction was diminished by a host of angry letters from academic colleagues in America. They complained that I had stirred up what should have laid buried. Those who protested were all good men (there were no women), but they had forgotten that we must continue to talk about the bad things that doctors can do in their search for the truth, even at Yale, if tomorrow we are not ourselves to do worse, and grow prouder still.

PHYSICIAN AS PATIENT

Finally, a comment on the paradox of the doctor who has to become a patient to learn that he is still a person. The trained detachment of our profession protects us physicians from getting too involved with our patients, but when too rehearsed and too repeated, that defending distance becomes our manner and that manner becomes ourselves. Few of us doctors any longer know how to deal with emotions in patients or ourselves. We find it far easier to examine the x-ray or the scan than to listen to the patient, to get the hard-copy of image or laboratory number than to heed what our patients would tell us. Sick doctors are very lonely patients. The first thing that happens when a doctor is admitted to the hospital is a sign going up on the door: "No Visitors."

Sick doctors want to be cared for. Autonomy may be held up for other patients, held up too high I think, but it is not something physicians choose when they are sick. Almost to a man or woman, sick doctors tell how they want to be taken care of, so that they can give up their lonely vigil. They want decisions made for them, in their interest. The stories of doctors as patients suggest that one of the goals of medical practice is to learn the patients' interests so we can be loyal to those interests and make right decisions for them. You may be uncomfortably aware that I am praising paternalism, but it may be too much demeaned these days. I have come away from reading stories of sick doctors with the conviction that if you are loyal to your patient's cause, even if it must sometimes be what you imagine that cause to be, you will care for the patient better than doctors who spread their wares to sick patients forced into unequal equality. The message from doctors who have been patients tells us that hope helps as much as truth, and that imagination, drama, passion, poetry and—yes, even love, will be as important in your medical practice as they should be in the rest of life.

These stories, of the placebo response which tells of the relief that you can help patients bring to themselves, of the professor who forgot that people in prison camps were still human beings, and of the paradox of the doctor become patient, offer the last lesson for you in medical school: even with your M.D. degree, you will still be just people caring for other people. But, besides all this, and most of all, taking care of patients is great fun, the best way to spend your lives. Congratulations. Go out, take good care of your patients, and have fun. Bless you all.

AESCULAPIUS MEETS THE COMPUTER

by Phyllis Joffe

From administrative record keeping, to storage and retrieval of clinical and research data, to artificial intelligence systems, medical informatics—biomedical computer science—is changing the face of medicine. And in today's medical marketplace, computer-literate physicians increasingly have an edge.

"There's a tremendous amount of information relevant to patient care, more than any one person can retain," says Dr. Perry L. Miller, director of Yale's medical informatics program. Dr. Miller, a physician with a Ph.D. in computer science from M.I.T., is associate professor of anesthesiology at the School of Medicine.

"Across the board," explains Dr. Miller, "the computer has the potential to follow in detail how a physician is practicing medicine and can alert him to things he may otherwise miss. It could improve medical care significantly."

At the School of Medicine, computers are playing a more central role in patient care, medical education and research. For example, a grant of \$960,000 from the National Library of Medicine will support research by graduate students and post-doctoral fellows for five years as they explore the application of artificial intelligence techniques in medicine. The school is one of only eight academic medical centers in the United States that receive funds for research training in medical informatics.

Dr. Miller's interest in patient care, "especially where you have a number of clinical information systems, where clinical information is on-line and where it can increasingly be used to help the physician improve medical practice," has led to his own research on "critiquing" systems—artificial intelligence that brings computer-based advice to practicing physicians.

Dr. Miller believes that the critiquing approach is particularly suited to fields such as medicine, in which decisions frequently involve subjective judgment. Working from a physician's own treatment plan, the critiquing system discusses the risks and benefits of the proposed approach and of any other preferred approaches. "We are exploring how to design computer-based advice so it is not telling the physician what to do, but rather critiquing his or her own style of practice and way of thinking," he explains.

Thus, says Dr. Miller, the computer complements, rather than substitutes for, a physician's judgment: "No one is suggesting that we dispense with the physician and have the patient interacting only with a computer. You need an experienced, intelligent, compassionate person. And most people re-

spect the intuitive judgments that physicians make. But the computer has the ability to remember masses of information and the potential to integrate that in a flexible way with what the physician is doing."

PROJECTS

In one project, Dr. Miller and Dr. Henry R. Black, associate professor of internal medicine, are evaluating an expert system, HT-ATTENDING, which critiques physicians' plans for pharmacologic management of essential hypertension. Expert systems are computer systems designed to incorporate human expertise in real-world problem-solving domains.

Along with Dr. Henry A. Swett, associate professor of diagnostic radiology and associate director of the medical informatics program, Dr. Miller is developing expert systems to assist in radiologic diagnosis. The DxCON system critiques radiologic workup, and ICON critiques radiologic differential diagnosis.

Dr. Miller and Dr. Jon Morrow, associate professor of pathology, have embarked on medical informatics projects that involve intelligent computer-aided instruction and bibliographic retrieval in pathology. One system, PATHMASTER, is being developed for histologic diagnosis from slides of liver tissue. This intelligent computer-assisted instruction (ICAI) system is intended especially for use in teaching and consultation in pathology. Its goal is to help physician-users make correct diagnoses while it simultaneously teaches how to approach histologic diagnoses in an organized, criteria-based manner.

Drs. Miller and Morrow also are working with Dr. Seth M. Powsner, assistant professor of psychiatry; Dr. Kenneth W. Barwick, associate professor of pathology; and Dr. Caroline A. Riely, associate professor of medicine, on a major research project supported by the Unified Medical Language Program of the National Library of Medicine. The project explores ways that semantic relationships—the underlying conceptual relations between terms—can assist in medical bibliographic retrieval. Drs. Miller and Morrow have chosen liver disease as their domain for that project, using as a resource an extensive file of liver cases that are part of Dr. Morrow's pathology information system.

Other currently active research projects in medical informatics include an exploration of novel computer-based diagnostic strategies in pathology, conducted by Dr. Jerome A. Silbert, associate professor of laboratory medicine and pathology, and Roger Schank, Ph.D., professor of computer science; and various projects to develop expert systems for diagnosis and treatment in psychiatry, conducted by Dr. Powsner, Dr. Robert Byck, professor of psychiatry and pharmacology, and David Gelernter, Ph.D., associate professor of computer science.

Phyllis Joffe was writer, broadcast specialist in the medical school's public information office.

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WELCOME TO THE YALE LIVER CENTER CORE COMPUTER SYSTEM

Your Password: Good Afternoon, JON.

Liver Option: 20 Ask the Dr. Klatskin Data Base for a Diagnosis

Welcome to 'CIDOC', a consultative program based on the Yale experience of the past 30 years, including the files of the late Dr. Gerald Klatskin.

The doctor is in, so if you would please just identify your patient, she will be glad to assist you with a differential diagnosis. (note, if your patient is not registered in the Liver Center Computer System, you will need to do so before proceeding. Also please be sure to enter all relevant information on your patient, so the Doctor can help you.

Specimen: ???

Enter specimen number, hospital number, or part of name.

Or, enter ? for more information.

Specimen: █

BILL CARTER

A living legacy: When world-renowned liver specialist and Yale professor Gerald Klatskin died in 1986, he left behind over 30 years of well-documented records on more than 7,000 patients. These data, along with those of other physicians, were organized into a computer database according to clinical history, biopsy and laboratory results, and diagnosis. So today, thanks to the computer, Dr. Klatskin's experience still serves Yale physicians and medical students as an aid to diagnosis and teaching.

COMPUTER EDUCATION

As computers assume an increasingly significant role in medical research, medical education and clinical practice, medical schools face the formidable task of integrating both the fast-changing technology and the resulting explosion of medical knowledge into the existing curriculum.

To meet this challenge, the School of Medicine has embarked on a program designed to provide its students with computer literacy that incorporates a critical understanding of the strengths and weaknesses of computers in clinical medicine.

Under the aegis of Project Eli, a program established at Yale University to distribute \$6 million of computer hardware donated by the International Business Machines Corp., the School of Medicine is creating a computer teaching laboratory in Lauder Hall. Project Eli also will allow the department of public health and epidemiology to upgrade its two existing computer rooms.

Under Project Eli, networks of microcomputers will communicate with each other throughout the university and with more powerful computers, such as the mainframes at the Yale Computing Center. In such networks, the microcomputers function as workstations, where most of the computing is done. The higher-level computers function as "servers," which, upon demand, perform special functions for the workstations.

The Lauder Hall computer teaching laboratory will house 10 computer workstations. The units will be interconnected and eventually will be hooked up with the medical school computer network and the library's miniMEDLINE database. MiniMEDLINE is a subset of the more than 3,400 journals comprising the National Library of Medicine MEDLINE database.

Says Dr. Robert H. Gifford, associate dean for education and student affairs: "We need to network our computers, because our ability to 'talk' with each other through electronic mail and to access the library from medical school offices will be critical to our development in the coming decade."



BILL CARTER

Drs. Perry L. Miller and Jon Morrow discuss possible ways to update their PATHMASTER system of histological diagnosis of liver disease.

Dr. Gifford heads an ad-hoc committee for computers in medical education, which is developing a plan for the Lauder Hall laboratory.

The committee has suggested several possible uses for the facility, including: formal instructional mini-courses on the uses of personal computers for medical students, residents and faculty; mini-courses on using library databases, such as MEDLINE and miniMEDLINE; practice for students taking computer-based national board exams; student review of on-line examination questions that have been prepared by various departments; access to computer-assisted instructional programs currently available elsewhere; direct access to MEDLINE and miniMEDLINE for bibliographic retrieval; and word processing for medical students.

Dr. Gifford cautions that the computers will not be considered as substitutes for personal interaction, such as direct contact with patients and instructors. Rather, he says, the technology will complement existing elements of medical education. He describes the computer as a non-judgmental resource that can enhance learning: "Medical students, like most students, are sometimes hesitant to ask questions. They don't want to show their ignorance. Well, there is no way that the computer is going to yell back at you to criticize your ignorance. There is no fear of being exposed."

As with most new ventures, there are problems still to be

solved. Nonetheless, Dr. Gifford says, "it is important to move ahead and get the program started. We want to encourage the use of computers as educational tools as well as database tools."

LIBRARY RESOURCES

In the Yale Medical Library, two Project Eli IBM-AT computers already are in place. With the stimulus of a generous gift from Mrs. Betsey Cushing Whitney and her family, the future plans to renovate and expand the library also will prepare it for the automated future. "We have some catching up to do," says medical library director Bella Z. Berson.

"We are using our Project Eli computers to teach courses to help students organize their own reprint files, to prepare and manage their own databases and to learn to refine their search strategies when seeking information," she says. For example, by using Boolean logic—combining two search terms with a conjunction such as 'and' or 'or'—one can acquire more relevant information."

In addition to Project Eli, the medical library offers courses on National Library of Medicine databases. "One of the courses, for example, helps people using their own microcomputers to decide which MEDLINE access is best for their purposes," says Berson. "A portion of the huge MEDLINE database, a miniMEDLINE, is mounted on the Biomedical

Computing Unit's VAX equipment," explains Berson. The unit, located in Sterling Hall of Medicine, houses two computers and a terminal room from which the computers can be used for special applications.

ACADEMIC COMPUTING SUPPORT

The Biomedical Computing Unit is the central academic computing support resource for the medical center. Unit director David Stagg, Ph.D., is a research scientist in pharmacology (biomedical computing) at the School of Medicine. In addition to the library services mounted on its VAX system, the unit provides statistical analysis tools and molecular biology databases that currently are used by more than 100 researchers at the medical school.

The unit also installed the network that links the medical school with a Yale University-wide computer network. Stagg says this network is growing steadily, providing more and more access to research and teaching resources, library systems and world-wide electronic mail.

"This is an exciting time for us, since we have just embarked on a joint project with the genetic epidemiology research group, led by Kenneth K. Kidd, to enhance our computing resource to a VAX 8800, which will be housed at the medical school," says Stagg. Kenneth K. Kidd, Ph.D., is professor of human genetics and psychiatry. This \$1 million VAX system, jointly funded by the National Institutes of Health, the National Science Foundation and the School of Medicine, represents a major upgrade. A substantial part of the system will be available to the medical center community via the Yale computer network, says Stagg.

This new computer system and the expanded network will provide a state-of-the-art computing resource for the computer applications mentioned in this article and many other projects now underway or planned for the medical center.

The medical library's miniMEDLINE subset contains citations from the past three years in 234 medical, nursing and allied health journals that are in the library's collection. These include the 100 journals recommended by members of each school and department served by the medical library.

The miniMEDLINE database is updated monthly by tapes purchased from the National Library of Medicine. Two

Lynna Stone-Infeld, user support specialist, explains how each work station of the IBM network can function independently, allowing users to access the mainframe computer only when required for the most involved tasks.



BILL CARTER

BILL CARTER



First-year medical student Sarah Davidson uses a personal computer in the Yale Medical School Library to scan the titles of articles that are catalogued on a compact disk, or CD. Each CD can hold 600,000 citations, enough information to fill the Encyclopedia Britannica.

miniMEDLINE terminals currently are available in the library for access during regular library hours. "We are now exploring the possibility of adding one more terminal as well as making miniMEDLINE information available in laboratories and offices in the medical center," says Berson.

The medical library also is a test site for an Institute for Scientific Information CD-ROM (compact disk, read-only memory) project. "The compact disk, which students, staff and faculty researchers may use, is mounted on a computer in our information room," says Berson. "It contains subject access to the last six months of scientific literature."

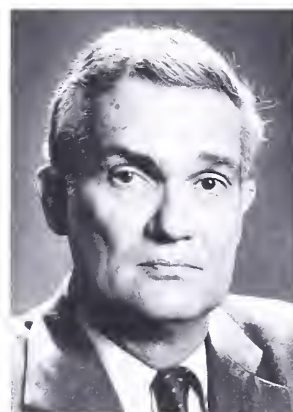
MiniMEDLINE and the ISI CD-ROM are end-user databases that allow the researcher quick, personal access to information. For more complex needs, researchers have more than 400 databases available on-line through the library's professionally staffed computer search service.

Plans for the library include more space and greater use of new automation technology. The medical library will be part of the University library's integrated computerized system that will allow readers to know if a book is in the collection, whether it is on order and whether it is available for circulation. The major components of this system should be in place by the time the library construction is completed.

ON THE CENTENNIAL OF THE NATIONAL INSTITUTES OF HEALTH

Throughout the United States, the public joined physicians and scientists in celebrating the Centennial of the National Institutes of Health. In Connecticut, Yale and the University of Connecticut joined to hold two special events honoring the NIH. First, the universities honored outstanding high school science students from throughout the state by inviting them to a seminar where State Health Commissioner Frederick G. Adams, '70 M.P.H., presented them with certificates. The students also heard scientists discuss topics ranging from AIDS to Lyme disease. Then, last September, the universities sponsored a professional seminar entitled "Frontiers of Biomedical Research: The Next 100 Years." Speakers included U.S. Sen. Lowell P. Weicker Jr., R-Conn.; Frank H. Ruddle, Ph.D., professor of biology and human genetics at Yale University; Sydney H. Croog, Ph.D., professor of behavioral sciences and community health at the University of Connecticut School of Dental Medicine and professor of psychiatry at the University of Connecticut School of Medicine; and Dr. James B. Wyngaarden, director of the NIH.

To continue the celebration, YALE MEDICINE asked a distinguished panel of Yale medical alumni, faculty members, and former faculty and deans to reflect on the National Institutes of Health. Their comments reveal both NIH's influence and its diversified approach in fostering biomedical science programs and research.



Dr. William L. Kissick is professor of research medicine and health care systems at the University of Pennsylvania.

by William L. Kissick, M.D., Dr.P.H.

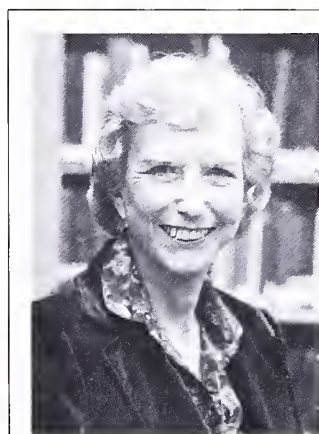
In the spring of 1966 the Surgeon General informed me that I would be responsible for implementing the Planning, Programming and Budgeting System (PPBS) in the United States Public Health Service. This analytic technique was developed by economists at the RAND Corporation in the 1950s to foster formulation of program options to link budgets with goals and was brought to the Kennedy Administration by Secretary of Defense Robert McNamara.

Subsequently, President Johnson mandated the dissemination of these cost-effectiveness strategies throughout his administration. At the time, the National Institutes of Health accounted for the largest expenditures in the Public Health Service. The Hill-Burton Program had been supporting construction of hospitals for almost two decades. The Health Professions Education Assistance Act, authorized in 1963 and amended in 1965, was just beginning to address the physician shortage. Regional Medical Programs, enacted in 1965, was mandated to improve the translation of these resources into medical practice.

PPBS called for orchestration of these and other diverse interests and initiatives into a coherent program as a means for the realization of specified goals. The NIH, under the leadership of Dr. James A. Shannon, sought to advance undifferentiated biomedical research. The Office of the Surgeon General searched for "increased quality life years" as an overarching goal to measure outcomes from diverse health programs. Economists in the Office of the Secretary, recruited from the RAND Corporation, sought a goal of "increased net present value of future income."

The Office of the Surgeon General was caught in a bureaucratic battle between the double helix and the Dow Jones. This was actually fun when one had the privilege of playing in the same game with James Alysius Shannon. His charm, intellect, vision and gall were to be admired. To hear Dr. Shannon testify to Congress, two-thirds of the NIH expenditures were devoted to conquering diseases through targeted, applied research. The next day, before a meeting of biomedical scientists, he extolled the virtues of investing two-thirds of NIH resources in basic, undifferentiated research. The more I listened to him, the more I realized that it was not duplicity, for he was correct on both scores. The subtle nuances, I would learn when he told the history of the conquest of polio, were best understood by a distinguished physician scientist.

I remember vividly the day I suggested to Dr. Shannon that we develop a common data base so that the Office of the Surgeon General and NIH could each aggregate budgetary information by our respective definitions of applied and undifferentiated research. He smiled, patted me on the shoulder and said, "Bill, you just ask me the questions; I'll get you the answers." Dr. Shannon taught me the role of budget busting in search of a goal higher than "increased net present value of future income." For me, the Centenary of the National Institutes of Health recalls a scientific statesman and consummate bureaucrat, a legend in his own time, for whom an appropriate Nobel Prize would be in economics as well as medicine.



Dr. Dorothy M. Horstmann is the John Rodman Paul Professor of Epidemiology and Pediatrics emeritus, and senior research scientist at the Yale School of Medicine.

by Dorothy M. Horstmann, M.D.

Having been a longtime worker in the field of infectious diseases, the early history of the National Institutes of Health particularly interests me. This complex organization, which is made up of 11 diverse institutes located on a 306-acre campus in Bethesda, Md., began modestly 100 years ago when Dr. Joseph Kinyoun established the Laboratory of Hygiene at the Marine Hospital on Staten Island. It consisted of a single room designated for research on cholera and other infectious diseases. In subsequent years, the hygienic laboratory underwent successive changes in title, mission and location, eventually emerging as the National Institute of Health in 1930, and in 1955—after a series of new institutes had been added—as the National Institute of Allergy and Infectious Diseases (NIAID).

In 1887 and through the early years of this century, such diseases as diphtheria, pertussis, typhoid fever, cholera and botulism were among the most prominent health problems in the United States and all challenged investigators at the hygienic

laboratory. There also were epidemics of "new" diseases to be dealt with such as Rocky Mountain Spotted Fever and tularemia. Identifying causative agents and determining modes of transmission carried risks; investigators not infrequently contracted diseases under study, and a few died. However, their pioneering work was rewarded with many successes, leading to means of prevention of a number of the epidemic diseases of the period.

In more recent times, vaccines against poliomyelitis and hepatitis B have been achieved, but the appearance of "new" diseases apparently is a never-ending problem. In the past decade, Legionella pneumonia and toxic shock syndrome required major efforts to unravel their mysteries. Today, AIDS constitutes a national health crisis. Investigators at NIAID and the many university laboratories supported by this institute fortunately have made revolutionary advances in molecular biology and immunology, and as a result now have highly sensitive tools for tackling AIDS and other complex diseases. There can be no doubt that the first 100 years of the National Institutes of Health constitute a stunning success story. The second century begins on a high note with prospects or future successes that defy the imagination.



Dr. Richard L. Edelson is professor of dermatology at Yale University.

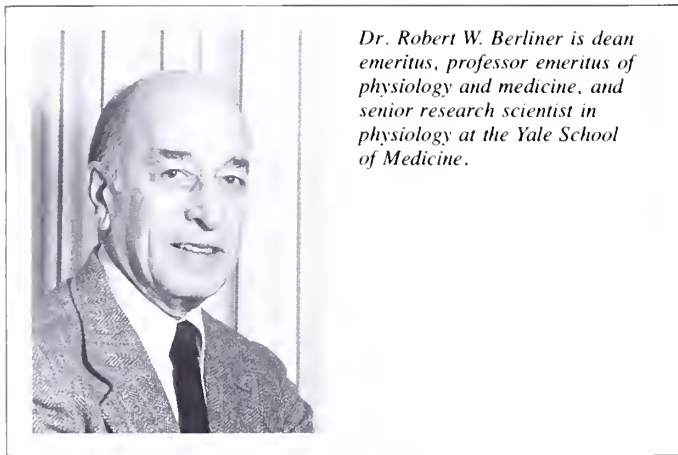
by Richard L. Edelson, M.D.

The National Institutes of Health has contributed enormously to the growth of medical academia in many ways. However, it is not widely appreciated that an extraordinarily high percentage of our current leaders in medical research and education were stimulated to enter academia as a result of their "military" experiences at the NIH during the later stages of the Vietnam war, a conflict which led so many of us to choose alternative service at the NIH.

It was my good fortune to spend three very formative years at the NIH, as an associate in the National Cancer Institute, from 1972 to 1975. During that period of national turmoil, virtually all male medical school graduates in my Yale medical school class of 1970 either were drafted, enlisted or made alternative service arrangements. One of the most desirable possibilities was to be among the few selected as NIH Associates. Acceptance to that program permitted a two-year deferral of "military" service, thus enabling new physicians to begin specialty clinical training. The NIH also offered the opportunity of exciting research experiences in a very pleasant setting in Bethesda, Md. The fact that we had all performed research at Yale and could arrive for our interviews with bound theses made us

particularly attractive candidates for positions at the NIH and explains the disproportionately high representation of Yale graduates (approximately 20) among those 150 candidates finally accepted.

The environment in which we worked was very conducive to both productive research and personal growth. The associates were given great responsibility in laboratories basically devoid of the funding pressures of university life. Clinical responsibilities largely were limited to the first year and were themselves quite enriching because of the spectrum of clinical material and the creative way with which it was dealt. There was an enormously contagious feeling that we were participating in exciting adventures and that we were contributing in important ways. I am impressed that the NIH experience induced more than half of the associates to pursue academic careers and that so many of that cohort group have subsequently done so well. On the basis of that experience, we are attempting to create a similar environment for a postdoctoral M.D. fellow in the department of dermatology at Yale.



Dr. Robert W. Berliner is dean emeritus, professor emeritus of physiology and medicine, and senior research scientist in physiology at the Yale School of Medicine.

by Robert W. Berliner, M.D.

The National Institutes of Health had a prolonged childhood. It had not yet achieved its adolescent growth spurt when I arrived at NIH in 1950, although the NIH was already 63 years old at that time. I joined what was then the National Heart Institute (other organs have since been added to its title); it was then a two-year-old infant.

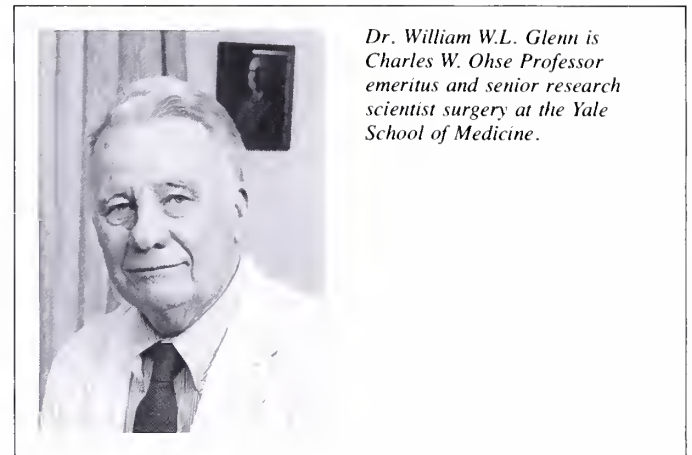
Jim Shannon was organizing the intramural research activities of the Heart Institute. The recruiting job he did at that time might have led one to expect the phenomenal role that he would later play as the director of NIH. The initial group of 20 or so people that he brought together included at least 10 who became members of the National Academy of Sciences and two who were to win the Nobel Prize.

Before he left the directorship of intramural research, he also recruited a group of younger people who were to form the Heart Institute house staff when the Clinical Center opened in 1953. They included two subsequent directors of the NIH. Thanks to the effects of the doctor draft, the intramural NIH became the training ground for an entire generation of leaders in internal medicine throughout the '50s and '60s. When I was honored by the Association of American Physicians in 1984, I pointed out that four of the five councilors of the association and its secretary had spent some part of their careers in the Heart Institute.

Jim Shannon left the Heart Institute in 1952, first to become

associate director of NIH, and then director in 1955. Shortly thereafter the growth spurt began that made the NIH the source for the generous and wisely selected support of medical research that made it the world leader in both quality and quantity. In 1950, the total appropriation for NIH was \$52 million. It had crept up to about \$70 million when Jim Shannon took over. When he retired in 1968, it was approaching \$1.5 billion. The current NIH appropriation is some 100-fold greater than when I first knew it.

When I joined the NIH in 1950 I was warned that no good could come from getting the federal government involved as a major supporter of medical research. As for becoming personally a part of the federal bureaucracy—horrors! Clearly, time has shown that at least one federal program can be run in exemplary fashion, and NIH is one of the few places where people take pride in being part of the federal government.

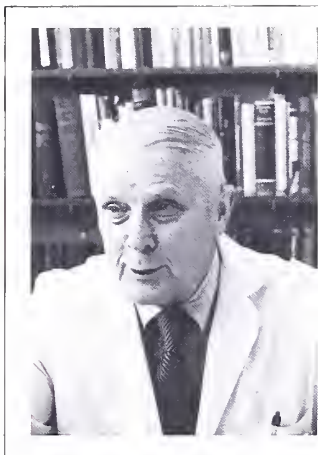


Dr. William W.L. Glenn is Charles W. Ohse Professor emeritus and senior research scientist surgery at the Yale School of Medicine.

by William W.L. Glenn, M.D.

On June 16, 1948, when President Truman signed an act establishing the National Heart Institute within the National Institutes of Health, he did so as the result of a groundswell of enthusiasm for federal support of research in heart disease, the major cause of death in America. A specific mandate of the National Heart Act was "to encourage and support research in cardiovascular disease." Thus, 1948 was a propitious year in which to begin a career in cardiovascular surgery, as it was my good fortune to do in October of that year at Yale. With the collaboration of a number of colleagues, fellows, engineers, skilled technicians, and administrative and nursing staff, we embarked upon an extremely active laboratory and clinical program destined to be carried on for over three decades. The continuous support of our program by the NIH from 1950 to 1987 enabled us to realize many of our research objectives.

For the clinical investigator, the approach of the National Institutes of Health has two major attractions. First is long-term support for initiation, investigation and resolution of an idea. A problem presented at the bedside can be carried to the laboratory for study, and the results of the study returned to the bedside for clinical trial and long-term follow-up. Second is the freedom NIH provides for exploring new ideas that were not contemplated when the original research proposal was approved. This combination of long-term commitment and flexibility is vital to quality research.



Dr. Paul B. Beeson is professor of medicine emeritus at the University of Washington.

by Paul B. Beeson, M.D.

Many extraordinary advances in methods of diagnosis and treatment can be attributed to the National Institutes of Health, especially during the past 40 years. I feel fortunate to have been professionally active at a time when so many exciting things were happening. Nevertheless I shall dwell here on some unanticipated—and untoward—effects of our massive research efforts.

One. The rapid accumulation of factual knowledge, together with the introduction of complex technologies in diagnosis and treatment, necessitated narrow specialization in medical practice, especially by the clinicians on the faculties of medical schools, for whom research and acquisition of new information is an obligation. This trend was quickly followed by doctors in private practice, and the stampede into specialization has now brought us to a state where we seem to have too many specialists and not enough generalists for appropriate service to the American people.

Two. The complexities of modern diagnosis and treatment, especially as employed in hospitals, is expensive, and is imposing a substantial economic burden, to the extent that health care now amounts to more than 10% of the gross national product. Inasmuch as health benefits have become major components of employment contracts, this affects the cost of everything we buy.

Three. Large charity hospitals which formerly were the principal sites of medical teaching, e.g., Boston City, Philadelphia General and Cook County, have encountered almost impossible financial difficulties, and no longer comprise the essential teaching resource, having been supplanted by private, often university-operated institutions where few charity patients are cared for, and where high-cost, tertiary-care medicine is emphasized. In such places, medical students have a somewhat skewed perspective of the world of health problems.

Four. The hidden costs: a) of operating tertiary-care hospitals; b) of conducting research; and c) of paying competitive salaries for clinical faculty members have created financial problems for our medical schools. Tuition has risen to the point where the majority of medical graduates now owe large debts.

Five. Young doctors are choosing fields of practice which make use of technologic procedures in diagnosis or treatment, partly because these fields provide higher incomes than do those in which service is largely cognitive in nature.

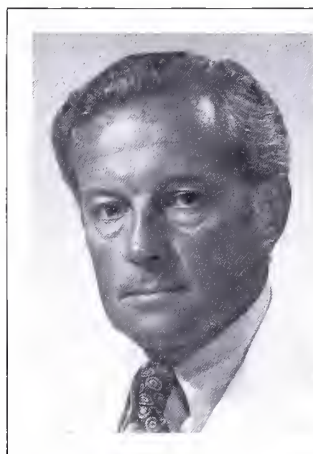
Six. The high cost of medical care, together with the high earnings of the medical profession, has contributed to a harmful increase in litigation and in the cost of malpractice insurance.

All these have tended to change the character of medical practice, reducing the popularity of autonomous personal-encounter

careers, and favoring the establishment of group practices, large private clinics and health maintenance organizations. I understand that about half of all active clinicians are now working on a salaried basis, or in some kind of partnership system. It is astonishing to read that about 50,000 (10 percent) of the nation's clinically active physicians are now salaried medical school faculty members.

Additionally, we must take note of the demographic change that has come about during this century. When I entered the profession a major aspect of our work had to do with acute infectious processes. These have diminished in relative importance, and today's challenge is to deal with the chronic degenerative processes that accompany aging. About a third of the national expenditure for health care now goes to the 11 percent of our population over age 65.

Looking back over half a century it appears that advances came along just slowly enough that we failed to foresee the ripple effects they engendered. Today, no one can deny that a compelling need exists for reappraisal and for substantial alteration of our systems of medical education and medical practice.



Dr. Thomas F. Ferris is Nesbitt Professor and chairman of the department of medicine at the University of Minnesota.

Thomas F. Ferris, M.D.

The celebration of the Centennial of the National Institutes of Health is a celebration of the accomplishments of biomedical research. NIH has provided the major support for biomedical research in the United States and the accomplishments of this effort, particularly in the 40 years since World War II, stand among mankind's great achievements. More has been learned about human biology over the past 40 years than in prior recorded history. Since the public is being reminded constantly of the cost of medical care and the ethical problems created by biomedical technology, it is appropriate that we celebrate improvements in understanding disease and the relief of human suffering that has flowed from these efforts.

As a medical student at Yale in the 1950s I recall learning that the nucleus of a cell contained deoxyribonucleic acid. Now, 30 years later, the NIH is considering sponsoring a program to map the human genome.

Fitkin 2 was filled the summer of my junior year with patients with acute poliomyelitis, many of them in iron lungs. We were taught that hypertension was part of the aging process; today, anti-hypertensive therapy has resulted in a striking reduction in cardiovascular mortality. Strokes that were once so common on medical wards now are relatively rare. We knew little of the immunologic basis of renal injury and wondered if acute post-

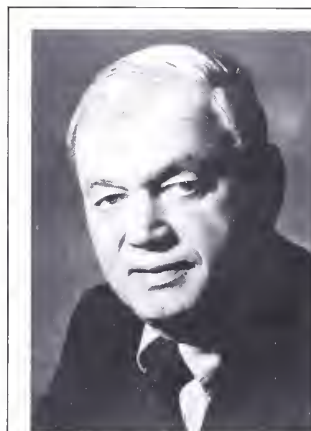
streptococcal nephritis or urinary tract infections caused chronic renal disease which was invariably fatal. Today transplantation gives patients with chronic renal failure an 85 percent chance of normal renal functions five years after the transplant.

We knew from the differences in incubation time that two different filterable agents caused hepatitis, but today viruses are cultured almost as routinely as bacteria. Bioassays for crude measurements of hormones in plasma have been replaced by accurate immunoassays. Leukemia was invariably fatal whereas chemotherapy and bone marrow transplantation now give a normal life to many. As an example of fatal disease, Paul Beeson presented to our class during our first week of medical school a young minister with lymphoma; today the patient would have an excellent chance of cure. In pathology, one of our most popular teachers humorously derided the possibility that cigarette smoking caused cancer. Open heart surgery was in the future, and talk of a heart, lung or liver transplant would have been considered unscientific fantasy.

It has been a privilege to have lived during the time of these medical achievements. If NIH flourishes for another 100 years, my great-grandchildren may see the elimination of disease as a cause of premature death.

terest in the excitement of research and pushed me toward a career in academic medicine.

I owe an inestimable debt of gratitude to Yale for nourishing me intellectually and to the National Institutes of Health for nourishing me financially.



Dr. Robert G. Petersdorf is President of the Association of American Medical Colleges.

by Robert G. Petersdorf, M.D.

For many of us who established academic medical careers in the '60s and '70s, the National Institutes of Health became an indelible part of our professional lives. I was appointed to my first assistant professorship in 1958 at the conclusion of my chief residency at Yale. For the first year-and-a-half, the sustenance of my laboratory work came as part of an NIH grant to my mentor. This research, in turn, helped me gain a position as associate professor of medicine at the University of Washington and chief of medicine at the old King County Hospital (now called Harborview Medical Center).

As soon as I began this job, grant writing to the NIH began in earnest. I applied for—and received—two research grants and became the principal investigator on a training grant. As a result of this generous NIH support, I was able to get a rapid start with my academic career. Within a short period of time, and with ample NIH support, I started a laboratory and recruited research fellows. NIH funding continued uninterrupted for the ensuing 20 years.

This story has been repeated for thousands of young investigators who have become beneficiaries of the NIH. I saw this from a different perspective as chairman of a department; NIH support was essential to recruit and retain new faculty.

Our small, burgeoning medical service at King County Hospital received an enormous boost when NIH designated it as a clinical research center. I cannot overstate the importance of that modest CRC to the development of a research-oriented medical service in a county hospital. Several young investigators in endocrinology, cardiology, hematology and infectious disease used that center to begin their own academic careers. Although this CRC was eventually merged with a larger one at the University of Washington, it provided an important start for a group of young investigators.

The value of the CRC program has been shown many times since then. As dean of the University of California in San Diego 20 years later, I became principal investigator of the clinical research center. The presence of that funding instrument enabled us to complete a major recruitment, not to mention providing



Dr. Gerard N. Burrow is the Sir John and Lady Eaton Professor and chairman, department of medicine, the University of Toronto.

by Gerard N. Burrow, M.D.

In several ways the National Institutes of Health has been my "alma mater" or "bountiful mother" in pursuing a career in academic medicine. To begin with, a National Health Training Grant funded my clinical fellowship in endocrinology. As part of that training I had to spend a period of time in a research laboratory. Dr. Philip Bondy, my supervisor, had just spent a sabbatical learning molecular biology, and my three months working with him led to my career interest in bench research. My research fellowship with Dr. Bondy and subsequent research support during my first two years as a faculty member also came under the umbrella of the NIH Training Grant. Later, appointment as director of the Clinical Investigation Centre, funded by the National Institutes of Health, provided financial support during those early years on the faculty. Eventually, I received my own national health research grants and a career development research award which provided my salary.

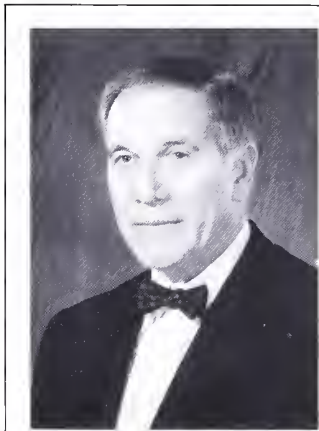
Until I moved to Toronto, my entire academic medical career had been supported by the National Institutes of Health. Perhaps even more germane is that the time in research spent during the clinical fellowship in endocrinology stimulated a permanent in-

support for some very good clinical investigation.

An important aspect of the NIH in most academics' lives is service on NIH committees and site visit teams. I have always felt that this type of service is a debt academicians owe to the agency that has made academic life possible. Over the years, I have served on a training grant committee, an advisory council and the director's advisory committee. Each of these assignments provided the opportunity for addressing challenging problems and for interacting with a host of outstanding colleagues. Indeed, many of the friendships made in academic medicine are made around the table of NIH study sections and committees, and over dinner in a Bethesda watering hole.

In my present position, as president of the Association of American Medical Colleges, much of the time, effort and resources of the AAMC and its staff are spent espousing the causes of the NIH. Some of our key staff are alumni of the NIH administration. Our constituency—the faculties of medical schools and teaching hospitals—depend on the continued health of the NIH. We therefore consider NIH advocacy a vital part of our agenda. Both the association and I as an individual feel that the NIH is part of the American academic culture, and that its support of research and research training is the major reason that American biomedicine leads the world.

The NIH is a unique institution that we must preserve, nurture and cherish. More importantly, we must see to it that the role of the NIH in American biomedicine is strengthened so that it may do for our successors what it has done for our generation.



Dr. Morton M. Kligerman is the Henry K. Pancoast Professor of Research Oncology at the University of Pennsylvania.

by Morton M. Kligerman, M.D.

Some of the background leading to the establishment of the National Cancer Institute's radiation program and its importance to the department of radiation therapy at Yale University should be recorded.

The need for support for the discipline of radiology by the National Institutes of Health had been stressed by several, including the Drs. Edward W. Chamberlain, Eugene Pendergrass and Robert Stone, of Temple University, and the Universities of Pennsylvania and California at San Francisco, respectively. One consequence, during the latter half of the 1950s, was a Chicago conference the NCI sponsored when Dr. J. Rodney Heller was the director. This meeting of 10 radiation therapists was chaired by Dr. Henry S. Kaplan of Stanford University. Some of those attending included Drs. Gilbert Fletcher, Fernando Bloedorn, Richard Chamberlain, Milton Friedman and the

author. Consultants included Dr. Harold Johns, radiation physicist from Toronto, Robert F. Kallman, radiobiologist, and Lincoln Moses, statistician, both of Stanford.

The question posed was whether a collaboration among a group of academic radiation therapists was necessary to determine best methods of treatment, and to agree that input from physicists, radiobiologists and statisticians was a requirement. The affirmative answer led to a meeting at the NCI's Stone House when the late Dr. Kenneth Endicott was NCI director and Dr. Gordon Zubrod was clinical director. The group of radiation therapists was expanded to 24, and the areas of agreement concerning the scope of such a collaboration were far greater than were the disagreements.

This meeting led to the development of a "white paper" recommending a program which would support research in radiation therapy, biology and physics, as well as research training in these areas. The report, submitted to the NCI, stressed the importance of radiotherapy in cancer management and predicted that the need for radiation therapy, either alone or in combination with other forms of cancer management, would increase in the future. It also emphasized that radiobiology was the basic science of radiation therapy.

This program was accepted, and funds were designated for its support through the mechanism of competitive grants. In 1961, the division of radiation therapy of the department of radiology at Yale University received a training grant entitled "Research Training in Radiation Therapy," and then in 1962, a research grant entitled "Radiation Therapy and Biology Research Program." Though the author was the principal investigator, the contribution of Dr. Paul Howard-Flanders was enormous. As a result of these grants, Yale became one of the first six specialized cancer centers. Some of the persons who trained under this program included Drs. Samuel Hellman, Peter Scibetta, Gustavo Montano, John Chaffee, Stanley Order, James Fischer and Leonard Prosnitz.

Special tribute must be paid to the NCI for instituting the double review system for grant application review by one's peers, which was instrumental in making it possible for all potential investigators to receive a research award. In my opinion, this process was of singular importance in establishing American medical science's superiority.

Tribute also must be paid to the NCI staff whose effort and performance were extraordinary. I especially remember the contributions of Dr. Ralph G. Meader, associate director for grants and training; Ms. Helen Denson, program director for postdoctoral and special fellowships; and Dr. Samuel Herman, executive secretary of the radiation study section at the start of the radiation program.

HERE AND ABOUT

Sheila Wellington Appointed University Secretary

Sheila W. Wellington, M.P.H. '68, M.U.S. '68, has succeeded John A. Wilkinson as secretary of Yale University. Wilkinson, who had held the secretary's post for 20 years, resigned to become headmaster of the Germantown Friends School in Philadelphia. Ms. Wellington, formerly deputy director of the Yale Psychiatric Institute, has been long active in community affairs.

University President Benno C. Schmidt Jr. commented, "I am extremely pleased that Sheila Wellington has accepted this critically important position at Yale. She will bring tremendous strength to the Office of the Secretary. Sheila is an experienced, skilled and energetic administrator. She has been a committed citizen of New Haven for many years, active with the political institutions and communities of this city. She is enormously intelligent, open and caring."

Ms. Wellington, who has taught introductory and advanced courses in administration and mental health policy at Yale since 1974, has two degrees from the University, both earned in 1968—a Master of Public Health degree from the department of epidemiology and public health and a Master of Urban Studies from the School of Art and Architecture. From 1980 to 1986, she was director of the Greater Bridgeport Community Mental Health Center.

She joined the Hill-West Haven division of the Connecticut Mental Health Center in 1968 and was its director from 1977 to 1980. The center is sponsored jointly by Yale University and state agencies. In her new post, she became an officer of the Yale Corporation, the University's governing board of trustees.

"I am honored to be asked to serve the University and the wider community in the position of Secretary, and I look forward to following in the distinguished tradition of my predecessors," Ms. Wellington said.

Health Care Expert Elected Yale Trustee

William L. Kissick, Yale '53, '57 M.D., '59 M.P.H., '61 D.P.H., has been elected a trustee of Yale University after a nationwide balloting of alumni. Dr. Kissick, the George Seckel Pepper Professor of Public Health and Medicine at the University of Pennsylvania, succeeds Frederick B. Dent, '44. Dr. Kissick will serve a six-year term as a member of the Yale Corporation.

When he received his last degree from Yale in 1961, Dr. Kissick went to Washington to work on health and science policy for the Kennedy administration. During seven years in the nation's capital, he helped to draft health programs, policies and legislation for the Kennedy and Johnson administrations while attached to the U.S. Public Health Service, the Department of Health, Education and Welfare and the White House. From 1965 to 1968, he directed strategic planning for the Surgeon General until President Johnson appointed him executive director of the National Advisory Commission on Health Facilities.

In 1968 he became a member of the faculty at the University of Pennsylvania, where he organized research and educational programs in health care. His joint professorships in the School of Medicine and the Wharton School at Pennsylvania established a national precedent.

Dr. Kissick has served as an advisor, consultant or trustee of many national and international groups, including the World Health Organization, the U.S. Department of State, the Board of National Missions of the United Presbyterian Church and several Fortune 500 corporations.

In the past 25 years, Dr. Kissick has been intimately involved in the affairs of Yale. His work on behalf of the University includes service on the Alumni Schools Committee and on the Board of Directors of the Yale Club of Washington, D.C. In addition, he has been a director, vice president and president of the Association of Yale Alumni in Medicine; a member of the Development Board and the Alumni Fund for the Medical School; chairman of the Graduate and Professional Schools Committee; assistant chairman and vice chairman of the Yale Alumni Fund; and chairman of the Committee on Medical Affairs of the University Council.

Edwin Cadman Returns to Lead Department of Medicine

Dr. Edwin C. Cadman, vice chairman of the department of medicine at the University of California at San Francisco and director of its Cancer Research Institute, became chairman of the School of Medicine department of internal medicine and chief of medicine at Yale-New Haven Hospital on Sept. 1. Dr. Cadman returns to the medical school and hospital with which he was affiliated from 1974 to 1983.

He succeeds Dr. Samuel O. Thier, who became president of the Institute of Medicine in January 1986. During the intervening months, Dr. Robert M. Donaldson has served as acting department chairman.

"Ed Cadman is nationally recognized as a clinician, teacher, researcher and administrator. I am personally delighted that he will lead our school's large and crucial de-



Dr. Cadman

partment of medicine," says Dr. Leon E. Rosenberg, dean of the School of Medicine. "As a well-recognized leader in medical oncology, he has made major research contributions in the field of cancer chemotherapeutic agents. His work will strengthen the Yale Comprehensive Cancer Center," the dean notes. The Yale Comprehensive Cancer Center is a joint project of the School of Medicine and Yale-New Haven Hospital.

During the past decade, Dr. Cadman has centered his research on the interaction of cancer drugs and cancer cells. For the last two years, he has concentrated on studying the mechanisms by which drug resistance is transferred among cells. Drug resistance is the most common cause of treatment failure in cancer patients.

A native of Oregon, Dr. Cadman received a B.A. degree in 1967 from Stanford University and an M.D. degree magna cum laude in 1971 from the University of Oregon. He completed his internship and residency training in medicine at Stanford University Hospital. Between 1974 and 1976, Dr. Cadman took a postdoctoral fellowship in oncology at Yale University School of Medicine, after which he joined the faculty as assistant professor of medicine and pharmacology. He was named associate professor in 1979. He also was an attending physician at Yale-New Haven Hospital.

At Yale, Dr. Cadman was noted for his teaching. In 1978, the department of medicine named him teacher of the year; in 1982, the School of Medicine presented him the Francis Gilman Blake Award for outstanding teaching.

In 1983, Dr. Cadman was named professor of medicine and chief of hematology/oncology at the University of California at San Francisco. Two years later, he was named the American Cancer Society Professor of Oncology. In 1986, he became vice chairman of the department of medicine and was named the David A. Wood Professor of Cancer Biology. He held both endowed professorships concurrently.

In 1985, he served as president of the American Federation of Clinical Research.

Dr. Feinstein Awarded International Prize

Dr. Alvan R. Feinstein, professor of medicine and epidemiology, has received the prestigious J. Allyn Taylor International Prize in Medicine for 1987. He shared the prize with Peter Armitage, professor of biomathematics at Oxford University, and David L. Sackett, professor of clinical epidemiology and biostatistics at McMaster University.

The Taylor prize, administered by the Roberts Research Institute in London, Ontario, and instituted in 1985, is awarded annually for "significant contributions to a field of basic or clinical research." The scientific community nominates individuals, and a peer jury selects the recipients, who receive gold medals.

The prize this year was given for work in "the basic principles and discipline of clinical evaluation." Drs. Feinstein and Sackett were being honored for their pivotal work in establishing and developing the field of clinical epidemiology as a unique investigative discipline for studying problems in medicine. Professor Armitage was selected for his work in biostatistics and in the design of clinical trials.

Dr. Feinstein, who joined the Yale medical faculty in 1962, has written four books as sole author and more than 300 papers on topics of clinical evaluation, epidemiology and biostatistics. He directs the clinical epidemiology unit at Yale, the introduction to clinical medicine course for medical students and the Robert Wood Johnson Clinical Scholars Program for post-residency fellows. He also is co-editor of the *Journal of Chronic Diseases*.

Yale Model Program Featured at National Sickle Cell Conference

A Yale pediatrician who developed the country's first successful program for diagnosis and treatment of infants with sickle cell disease says that early intervention is the key to saving the lives of children who have this incurable genetic illness, which affects as many as one in 500 black Americans.

"In the last 15 years, we've identified and treated about 45 babies in New Haven with this potentially life-threatening disease," says Dr. Howard A. Pearson, chairman of the pediatrics department at the School of Medicine and chief of the pediatric service at Y-NHH. "Using historical controls, we would have expected seven to 10 deaths in that group. But we had none."

Dr. Pearson was the introductory speaker for the National Institutes of Health Consensus Development Conference on Newborn Screening for Sickle Cell Disease and Other Hemoglobinopathies, April 6-8, at NIH headquarters in Bethesda, Md.



Dean Rosenberg presents the Leah Lowenstein Award to Dr. Barbara Kinder.

SVEN MARTSON

Sickle cell disease, also known as sickle cell anemia, is a genetic condition in which red blood cells change from a normal round shape to an abnormal sickle, or crescent shape.

The disease causes unpredictable pain attacks and other serious health problems. Says Dr. Pearson: "If you look at the history of this disease, you find that as many as 30-35 percent of affected children die before reaching the age of five, and many of them die of infection. Sudden early death from catastrophic infection may be the first manifestation of the disease."

Since June 1972, the Yale School of Medicine department of pediatrics has been testing all black and Hispanic babies born at Y-NHH and the Hospital of St. Raphael, to identify those with sickle cell disease. Once an affected baby is identified, he or she is immediately enrolled in a special clinic for treatment, follow-up and emergency intervention.

The Yale neonatal program for sickle cell anemia has been replicated throughout the world. The National Heart, Lung and Blood Institute used it as the model for its Cooperative Study of Sickle Cell Diseases. This 10-year national investigation took place at 21 institutions and enrolled nearly 4,000 patients, beginning in 1977.

Leah Lowenstein Award Presented

The Office for Women in Medicine presented the second annual Leah Lowenstein Award to Dr. Barbara K. Kinder, associate professor of surgery at the School of Medicine and chief of surgery at Yale University Health Services.

The award recognizes the medical school faculty member who most clearly provides positive images of women in the promotion of humane and egalitarian medical education. The recipient's teaching style and personal example have provided a model for the principle of equal opportunity espoused by the late feminist physician, dean and medical educator Leah Lowenstein throughout her career, according to Merle Waxman, director of the Office for Women in Medicine.

On receiving the award, Dr. Kinder said, "In an era where the business of medicine seems all too often to be a major focus of student and practitioner concerns, it is extremely important that the humanitarian aspects of our profession not be neglected. An award such as the Leah Lowenstein Award honors not only its recipient, but bears witness to the importance of a balance between technological expertise and human compassion in the practice of our craft."

Dr. Kinder joined the Yale medical faculty in 1977 as an assistant professor of surgery. A native of Washington, D.C., she received a B.A. degree magna cum laude in 1967 from Smith College and an M.D. degree cum laude in 1971 from Yale School of Medicine. She took her residency training at Yale-New Haven Hospital, where she also is an attending surgeon. Dr. Kinder is president-elect of the Connecticut Society of American Board Surgeons.

Dr. Kinder's clinical and teaching interests are surgical endocrinology and breast disease. She concentrates her research on the second messenger system in secretory tissues, such as the parathyroid and exocrine pancreas.

Graduates Select Residencies; Reflect Trends in Medicine

Ninety-four students who graduated from the School of Medicine in June participated in the national match program on March 18. They selected residency training programs mirroring national trends that graduates have set during the past seven years.

According to Dr. Robert H. Gifford, associate dean for education and student affairs, the most significant change was the marked decrease in the number of students choosing internal medicine as a career. "Only 24 students opted for internal medicine residencies, a decrease by more than 50 percent from 1980.

"Even more striking was the fact that no student applied for an obstetrics and gynecology residency," he says. "And general surgery had the lowest number of successful applicants in the past seven years."

In contrast, psychiatry was very popular. Twice as many students entered the specialty this year as compared with 1986, and five times as many students as in 1980. A dramatic increase was also seen in the number of students entering ophthalmology programs.

"Emergency medicine, anesthesiology, therapeutic radiology and otolaryngology are newly popular specialties," says Dr. Gifford, who added "the number of students who entered pediatrics and family practice has remained relatively constant

during the past seven years."

Reasons for these trends are not entirely clear. However, Dr. Gifford says that the average debt of Yale medical graduates—now close to \$40,000—may play some role in the selection of career specialties.

Some educators also feel that medical students' clinical experiences have become so heavily identified with highly specialized in-patient, intensive care that students are less likely to find role models in general medicine or surgery.

The country's litigious climate, the associate dean notes, may also be a factor in residency selection for some graduates.

CLASS OF 1987 Residency Positions

CALIFORNIA

Harbor-UCLA Medical Center, Torrance

Michael Burg, *emergency medicine*
David Granet, *transitional*

Kaiser Foundation Hospital, San Francisco

Andres Cortes, *general surgery*

LA County-USC Medical Center, Los Angeles

Alan Yamada, *urology*

Martin Luther King Jr.-Drew Med. Ctr., Los Angeles

Cecil Bowen, *general surgery*

UCLA Neuropsychiatric Institute, Los Angeles

Dan Karasic, *psychiatry*

UCLA-San Fernando Valley Program, Sepulveda

Rebekah Braslow, *medicine*

University of California-San Diego Medical Center, San Diego

Harlan Meyer, *internal medicine*

University of California Hospital, San Francisco

Jerome Chin, *internal medicine*
Paul Wilson, *psychiatry*

Stanford University Hospital, Stanford

Mark vonZastrow, *psychiatry*

COLORADO

University of Colorado School of Medicine, Denver

Ian Cook, *general surgery*
Donna Klimowicz, *psychiatry*

CONNECTICUT

Danbury Hospital, Danbury

Benjamin Chen, *medicine*

Hospital of St. Raphael, New Haven

Subba Gollamudi, *transitional*
Hugh Hemmings, *medicine*

St. Vincent's Medical Center, Bridgeport

Larry Amsel, *transitional*
Peter Glazer, *transitional*

University of Connecticut School of Medicine, Farmington

Susan Thomas, *family practice*

Waterbury Hospital, Waterbury

Michael Cooper, *medicine*

Yale-New Haven Hospital, New Haven

Lisa Berlin, *pediatrics*
Cristina Brunet, *internal medicine*
Richard Diana, *orthopedic surgery*
Glenn Healey, *therapeutic radiology*
Robert Homer, *pathology*
Jay Horowitz, *surgery*
Susan Kruger, *psychiatry*
Robert Malison, *psychiatry*
Matthew Miller, *internal medicine*
Nancy Olson, *psychiatry*
Lisa Panzini, *internal medicine*
Tarik Ramahi, *internal medicine*
Lauri Robertson, *psychiatry*
Seth Rosenthal, *medicine*
Patrick Ruwe, *orthopedic surgery*
Terry Watnick, *internal medicine*
Mark Widmann, *medicine*
Nicole Vecchi, *internal medicine*
Eugenia Vining, *surgery*

DELAWARE

Medical Center of Delaware, Newark

Steve Gaskin, *emergency medicine*

DISTRICT OF COLUMBIA

Children's Hospital National Medical Center

Robert Englander, *pediatrics*

ILLINOIS

Illinois Masonic Medical Center, Chicago

Louis Glazer, *transitional*

University of Chicago Medical Center, Chicago

Mark Block, *surgery*

IOWA

University of Iowa Hospitals & Clinics, Iowa City

Kenneth Newhouse, *orthopedic surgery*

MARYLAND

Francis Scott Key Medical Center, Baltimore

William Tse, *internal medicine*

Johns Hopkins Hospital, Baltimore

Cynthia Kapphahn, *pediatrics*

Has anybody got a letter opener? Where are you going? Oh my gosh, I made it! Such excited comments echoed through the Sterling Hall mailroom shortly after noon on March 18—National Resident Match Day.



Photography: T. Charles Erickson



At left, Judy Mayo, medical school registrar, (left) and Beverly Easty, secretary in the student affairs office, distribute to graduating students letters about residency training positions.



Lynn Street (right) and Diane Louie share news of their future assignments.

MASSACHUSETTS

Boston City Hospital, Boston

Peter Blier, *pediatrics*
Colleen Collins, *internal medicine*
Michael Solon, *internal medicine*

Boston University School of Medicine, Boston

Amita Chaudhary, *transitional*

Brigham & Women's Hospital, Boston

John Gaziano, *internal medicine*
John Keaney, *internal medicine*
Diane Louie, *pathology*

Cambridge Hospital, Cambridge

Charles Brackett, *internal medicine*
Ellen Dolnansky, *transitional*

Lemuel Shattuck Hospital, Boston

Roxanne Bartel, *transitional*

Mount Auburn Hospital, Cambridge

Marian Greenburg, *medicine*

New England Medical Center, Boston

Richard Tierney, *general surgery*

University Hospital, Boston

Jeffrey Barkin, *internal medicine*

MINNESOTA

Mayo Graduate School of Medicine, Rochester

Robert Leggon, *orthopedic surgery*

University of Minnesota Hospitals, Minneapolis

Susan Bove, *internal medicine*
M. Nick Burke, *internal medicine*

MISSOURI

Barnes Hospital, St. Louis

Elliott Levy, *general surgery*

NEW JERSEY

UMDNJ-Robert W. Johnson Medical School, Piscataway

Nancy Lee, *internal medicine*

NEW YORK

Lenox Hill Hospital, New York City

Jesse Wardlow, *surgery*

Long Island Jewish Medical Center, New Hyde Park

Eric Jankelovits, *pediatrics*

Maimonides Medical Center, Brooklyn

Steven Blumenfrucht, *medicine*

New York Hospital, New York City

Suzanne Conzen, *internal medicine*
Mindy Schuster, *internal medicine*

New York University Medical Center, New York City

Judith Green, *internal medicine*
Lynn Street, *internal medicine*

Presbyterian Hospital, New York City

William Apfeldorf, *psychiatry*
Andrew Bazos, *orthopedic surgery*
Patricia Powell, *psychiatry*

St. Vincent's Hospital, New York City

Kristen Mertz, *transitional*

Winthrop-University Hospital, Mineola

Robert Urban, *medicine*

NORTH CAROLINA

North Carolina Memorial Hospital, Chapel Hill

Lisa Benaron, *medicine/pediatrics*
Steven Sieber, *internal medicine*
David Weingold, *pediatrics*

OHIO

CWRU-University Hospital, Cleveland

Linda Lewin, *pediatrics*

PENNSYLVANIA

Allegheny General Hospital, Pittsburgh

Eugene Fu, *medicine*

Hospital of the University of Pennsylvania, Philadelphia

David Fujii, *general surgery*
Rebecca Kadish, *anesthesiology*
Leslie Vogel, *psychiatry*
Barry Weinstock, *internal medicine*

Medical College of Pennsylvania, Philadelphia

C. Christopher King, *emergency medicine*

St. Christopher's Hospital, Philadelphia

Douglas Nelson, *pediatrics*

Temple University Hospital, Philadelphia

Tammy Olsen, *internal medicine*

RHODE ISLAND

Rhode Island Hospital, Providence

Ross Jenkins, *surgery*

WASHINGTON

University of Washington Affiliated Hospitals, Seattle

Patricia Gibbs, *family practice*
Harley Heath, *pediatrics*

Severely Depressed Patients Respond to Drug

Fluvoxamine, a drug tested by physicians at the School of Medicine, has been found effective in relieving severely depressed patients who have not responded to other medication.

Fluvoxamine has been used in clinical trials since the late 1970s but is not yet available in this country. The drug has been marketed in Europe for more than five years and accounts for about five percent of anti-depressants sold by prescription in some countries, according to Dr. Lawrence H. Price, assistant professor of psychiatry and the lead investigator.

Drs. Pedro L. Delgado, a postdoctoral fellow at Yale; Dennis S. Charney, associate professor of psychiatry; and George Heninger, professor of psychiatry and director of the Abraham Ribicoff Research Facilities at the Connecticut Mental Health Center, also participated in the fluvoxamine studies.

The drug differs from most anti-depressants in structure and effects, according to Dr. Price. It is a unicyclic compound, having a one-ring chemical structure instead of the three-ring structure of a more familiar generation of anti-depressants. Its main feature is its selective effect on the chemistry of the brain, particularly the serotonin system. Serotonin is one of the major neurotransmitters regulating mood, appetite, sleep, sex, aggression and other physiological functions.

In the depressed state, according to one theory, serotonin is drained from the system. Fluvoxamine blocks the reuptake of serotonin and increases the amount available to other cells, says Dr. Price. Normal levels of serotonin are attained through other drug treatments, Dr. Price says, but only over a long term.

In clinical trials at Yale, more than two-thirds of the 28 patients who completed the study—having previously failed to respond to standard medication and psychotherapy—were judged to have had a "good response" to the drug in six-week studies that included time when the patients received placebos. This includes 30 percent who responded well to fluvoxamine and lithium, the latter having been in long use with depressed patients.

The determination of a "good response" is based on both the judgment of the treating physician and a significant positive change measured by standard rating scales for patient condition. The trials of fluvoxamine for approval by the U.S. Food and Drug Administration in this country are in phase three of a four-phase procedure, says Dr.

Price. The drug is available now only for designated investigators to use.

A double-blind study by Dr. Wayne Goodman, assistant professor of psychiatry, on the use of the drug fluvoxamine for treating obsessive-compulsive disorders also is underway. In this study, more than 40 percent of a test group of 20 patients with the disorder who took the drug showed "good response." They were measured by clinical judgment and changes in such ratings as the Yale/Brown Obsessive-Compulsive Scale. Dr. Goodman, working with Drs. Charney, Heninger and Price, has reported on this study. The main side effects from fluvoxamine, says Dr. Price, are nausea, mild headaches, restlessness and, in cases of long-term use, sedation.

West Haven VA-Yale Team Identify New Hormone

A research team collaborating at the Veterans Administration Medical Center in West Haven and School of Medicine has identified a new hormone that regulates the amount of calcium in the human skeleton. In doing so, the Yale-West Haven VA team solved a puzzle that has eluded scientists since the 1940s.

This hormone—HHM factor, or humoral hypercalcemia of malignancy factor—removes calcium from bones and transfers it to the bloodstream, sometimes in excessively high concentrations, which in turn may lead to kidney failure, coma and death.

The process also can lead to bone calcium loss similar to osteoporosis. "We hope the information about this new hormone will provide a useful tool for figuring out the amount of calcium in bones and what osteoporosis is about," says Dr. Andrew F. Stewart, associate professor of medicine at the School of Medicine and chief of endocrinology at the VA Medical Center.

To study HHM factor, the team examined cancerous tumors from 20 patients, extracted the hormone, and purified it. "Healthy tissues make only small amounts of HHM factor; but, for unknown reasons, cancerous tumors produce large amounts of the hormone," Dr. Stewart says.

Abnormally high calcium concentrations in blood may occur in many patients with lung cancer, breast cancer, leukemias, gynecologic cancers and other tumors.

"This new hormone, which transfers calcium from bones to the bloodstream, may help explain why tumors grow in some cancer patients," Dr. Stewart says. "We don't know whether this HHM factor is accidentally made by the tumors or whether the factor may be responsible for the tumors.... That's another question we are going to work on."

Dr. Stewart envisions that physicians eventually may use the hormone as a means to diagnose the cause of hypercalcemia—

abnormally high calcium concentrations in human blood—and as a test to screen for cancer. For cancer patients with elevated calcium, physicians may be able to follow HHM factor levels to determine the patients' responses to therapy.

Dr. Stewart says that identification of this hormone implies that a gene exists to code for HHM factor. "The next step is to identify that gene and to study what turns it on and off. We also want to look more closely at the relationship between the gene and cancer. This work is being conducted by Dr. Arthur E. Broadus, associate professor of medicine (endocrinology) and chief of the endocrine division at the School of Medicine; and Marguerite S. Mangin, Ph.D., associate research scientist in medicine at Yale.

"Now that we have identified the hormone, we can work to clone it and readily produce more of it in order to conduct further studies. For instance, we'd like to know what body activities this hormone regulates, where it is made and what substances or systems it 'talks' to," the endocrine researcher says.

Dr. Stewart's group published its findings in a May issue of the *Journal of Biological Chemistry* and presented the work at the American Society for Bone and Mineral Research annual meeting.

Grants from the National Institute on Diabetes and Digestive and Kidney Diseases and the VA Medical Center in West Haven have supported this research.

Dr. Stewart started work on the newly identified hormone in 1978 as a postdoctoral fellow at Yale medical school in Dr. Broadus' laboratory. Drs. Stewart, Broadus and their colleagues have continued the work at the endocrine research laboratory at Yale and the VA Medical Center in West Haven.

Besides Drs. Stewart, Broadus and Mangin, the team includes: Dr. William Burtis, assistant professor of medicine (endocrinology) at Yale and research associate at the VA Medical Center; and Dr. Karl L. Insogna, research associate at the VA and assistant professor of medicine at Yale.

Major Federal Grant Supports New AIDS Research

A team of Yale University biomedical scientists has begun a major research project which they hope will lead to a new drug treatment for AIDS.

The research project, supported by a five-year grant that the National Institutes of Health has awarded Yale University, will center on subcellular research to understand the chemical structure of AIDS virus proteins in order to design new drugs or improve existing drugs. For the first year, the NIH has awarded \$1 million to Yale.

"This project represents a new direction

in biomedical science's fight to combat the deadly AIDS virus.... We will approach the HIV virus, which causes AIDS—acquired immune deficiency syndrome—through the framework of structural biology, a relatively new field which seeks to understand the chemistry of complex biological molecules,” says Donald M. Engelman, Ph. D., the project's principal investigator. He also is professor and chairman of the Yale department of molecular biophysics and biochemistry and professor of biology.

“With five years of federal support for our research, we see an opportunity for our basic scientific skills to be useful in helping to solve an important problem: how to keep millions of people from dying from this relentless disease,” Professor Engelman says.

According to Halvor G. Aaslestad, Ph. D., assistant dean for research administration in the School of Medicine, this program project grant is the largest that the NIH has awarded Yale for basic AIDS research.

The Yale group that Engelman leads is one of six funded by the NIH and managed by the National Institute of General Medical Sciences. Three other groups are based at universities: the University of California at San Francisco and at Los Angeles and Harvard University. Two laboratories are located at companies, including Agouron Pharmaceuticals Inc., La Jolla, Calif.; and SmithKline & French Laboratories, Inc., Swedeland, Pa.

In conducting the research to determine the structure of protein molecules—which the virus uses to infect a cell and to make more virus—the Yale scientists plan to use the sophisticated technology of protein crystallography, which involves growing crystals of certain proteins and studying their structures by x-ray scattering. In doing so, the researchers will use techniques which omit human subjects or animals.

According to Engelman, the Yale researchers want to map where each atom is located among the thousands of atoms that determine the protein's chemical structure.

“We will design new drugs that will fit chemically and stick to the protein we are studying, and perhaps successfully block the protein's function,” says Engelman, a biophysicist who was named chairman of the molecular biophysics and biochemistry department in July. The department includes faculty in Arts and Sciences and in the School of Medicine.

A newly designed drug could possibly work in several ways, Engelman explains. “A drug either could stop the HIV virus from getting into cells, or it could block key steps necessary for the virus to grow within cells. The latter approach may be more useful for people with advanced cases of AIDS.”

Engelman cautions that the progress of this basic scientific research may take many years, but he points out that AIDS has a long time-course. “AIDS often appears 10 to 15 years after a person has been infected, so



Dr. Donald Engelman

even a solution which may take five or more years to develop still could be very useful,” he says.

Yale scientists will pursue four main areas of laboratory research. Dr. William C. Summers, M.D., Ph.D., professor of therapeutic radiology, human genetics and molecular biophysics and biochemistry, and his colleagues will clone or copy individual HIV proteins and produce them in large quantities, either in *E. coli* or in cell culture systems.

Then, they will purify the cloned protein and give it to Thomas A. Steitz, Ph.D., professor of molecular biophysics and biochemistry, and his laboratory colleagues, who plan to study the protein by using x-ray diffraction.

Frederic M. Richards, Ph.D., Henry Ford II Professor of Molecular Biophysics and Biochemistry, will conduct theoretical studies leading to drug designs. His work will be based on the previous structural studies. Finally, Engelman and his group will study the proteins responsible for getting the virus into cells.

The four principal scientists will direct research in their own laboratories. In addition, they will use the protein chemistry laboratory that Kenneth R. Williams, Ph.D., senior research scientist in molecular biophysics and biochemistry, heads in the Sterling Hall of Medicine and the Center for Structural Biology in Kline Biology Tower.

HIV virus falls within a family of viruses called retroviruses. These RNA-containing tumor viruses include herpes and such cancers as sarcomas, leukemias and lymphomas.

“If we learn how to deal with the HIV virus, then there may be other applications for our findings,” says Engelman. “Because this work is fundamental, it potentially opens an entirely new direction in thinking about viral problems.”

Human Genetics Opens DNA Diagnostic Lab

The department of human genetics has opened a new DNA Diagnostic Laboratory that uses sophisticated recombinant DNA technology to test for three severe genetic disorders.

The disorders are fragile X associated mental retardation, the most common cause of inherited mental retardation; X-linked muscular dystrophy and an enzyme deficiency of ornithine transcarbamylase, (OTCase).

“In establishing this new laboratory, we will widen the coverage of available genetic services in the New England area,” says Carolyn W. Slayman, Ph. D., professor and chairman of human genetics and professor of physiology.

The new laboratory expands the comprehensive genetic services that physicians and other health professionals in human genetics offer at the Yale School of Medicine. Two other laboratories provide biochemical and cytogenetic chromosome analysis. Counseling services also are available.

Until recently, prenatal detection and diagnosis of single gene disorders have been limited. In less than 200 of approximately 2,000 known genetic diseases, the defect has been identified. However, for more than 20 years, microscopic techniques to detect abnormal chromosomes in children with physical or mental abnormalities or in unborn fetuses have been available.

“The genetic diseases for which the Yale lab will test and other genetic diseases make a significant impact on health care facilities and medical support,” Dr. Slayman notes. “In many cases, retarded or handicapped individuals with these genetic diseases require considerable care.”

“The DNA Diagnostic Laboratory will apply newly developed techniques to detect inherited changes in DNA directly or to use naturally occurring variations in human DNA—called RFLPs, restriction fragment length polymorphisms—to track the section of the chromosome carrying the mutant gene from generation to generation within families,” explains Maurice J. Mahoney, M.D., professor of human genetics, pediatrics and obstetrics and gynecology. He also is acting director of the new laboratory. “This laboratory will allow both carrier detection and prenatal diagnosis to be possible in those families where it is appropriate to apply the tests,” Dr. Mahoney adds.

The genes that cause the three inherited diseases for which the new laboratory will test are located on the larger of the two sex chromosomes, the “X,” according to Patricia D. Murphy, Ph.D., assistant director of the laboratory.

Consequently, males, who have sex chromosome constitution XY, have the mutation on their only X chromosome. They are seriously affected by the disruption the

disease gene causes. Females, who have sex chromosome constitution XX, can be carriers of the mutant gene on one X, but because they have a normal copy of the gene on the other X, they are rarely and only mildly affected, Dr. Murphy explains.

Located on the third floor of the William Wirt Winchester Building, the new laboratory has been partially supported by a \$150,000 grant from the Johnson & Johnson Co. of New Brunswick, N.J. The three-year grant comes from the corporation's focused giving program.

In the future, the laboratory staff anticipates adding tests for other disorders, such as cystic fibrosis, adult polycystic kidney disease, myotonic dystrophy and neurofibromatosis, according to Dr. Murphy, who holds a doctorate in human genetics.

The laboratory also will serve as a site to test improved and new diagnostic procedures that members of the human genetics department develop, she adds.

National health statistics show that one in 1,500 to 2,000 men has marker X or fragile X syndrome. Mental deficit (IQ of 50 to 60), hyperactivity, large and often protruding ears and enlarged testicles characterize this syndrome.

Females who carry the gene are relatively frequent, one in 700 to 1,000. These carrier women—whether or not they express the marker—are at increased risk of having some degree of mental retardation or learning disability themselves.

The gene that causes the two major forms of muscular dystrophy—Duchenne and Becker types—resides in another region of the X chromosome. These diseases occur in approximately one in 3,300 children. Women may be carriers of the gene. The disorder usually is first noticed when the child is learning to walk. The child may experience progressive muscle weakness, until he is confined to a wheelchair.

This confinement occurs about age 10 in the more severe form of muscular dystrophy—Duchenne type—and later in the Becker type. Boys with the Duchenne form have significantly shortened lifespans. Women who carry the gene rarely show any physical signs of the disorder, but half of their sons will have muscular dystrophy.

OTCase deficiency is less common. Male children born with the mutation die of ammonia poisoning within hours or days of birth. Girls who carry the gene occasionally can show somewhat milder symptoms. They require careful monitoring to prevent permanent brain damage due to high ammonia levels in their blood.

Psychiatric Patients Rehabilitated Through Work

Adults disabled by psychiatric illness are learning to become productive workers in their communities, thanks to a transitional program available through the Yale Psychiatric Institute.

The Community Work Adjustment Program, part of the YPI Community Services Division, is designed for people who have been out of work for a long time or for those who have attempted jobs without success.

"Our typical client has been in and out of psychiatric hospitals for 10 or more years, with psychiatric diagnoses that include schizophrenia, major affective disorders and personality disorders," says Dr. Ira R. Levine, associate clinical professor of psychiatry at the medical school and senior clinical consultant to the Community Services Division.

Community Services Division director W. Leonard Hill Jr., M.Div., M.S.W., explains: "When clients come to us, they are relatively stable but are often still struggling with residual symptoms of prolonged mental illness. We have found that helping patients re-enter the working world not only moves them closer to the goal of making them contributing members of society, but has the added benefit of considerably enhancing their self-esteem."

Hill also is assistant clinical professor of psychiatry (social work) at the School of Medicine, and director of social work and coordinator of the family therapy program at YPI.

The work adjustment program teaches basic employment skills, such as getting up on time; calling employers to report lateness or absences; getting along with co-workers; accepting supervision; problem-solving on the job; learning to manage stress in the workplace; improving speed and stamina; and developing good grooming habits.

The program offers a continuum of services. Initially, the "Workplace," a vocationally oriented day treatment program, combines a protected work environment with group and individual counseling.

From the "Workplace," clients can move to unpaid, transitional employment in New Haven worksites—including the Salvation Army Thrift Shop and the Jewish Home for the Aged—that provide training opportunities for the program's clients. An additional network of 60 agencies, including hospitals, museums, libraries, animal shelters and other social service organizations, supervise client-volunteers.

Clients who go on to paid employment may fine-tune their work skills through a job maintenance program that includes individual counseling and job groups. For some patients, the work adjustment program coordinates services with the state Division of Rehabilitative Services, providing evalua-

tion, placements and follow-up vocational services.

"Counseling is the key to the success of this program," says Hill. "Instead of feeling like mental patients, participants learn to identify themselves as workers."

"By tailoring the program to individuals," he adds, "we help the clients to find the niches where they function best. One of the program's strengths is its diverse clientele—the Community Work Adjustment Program serves patients from all socioeconomic backgrounds."

In addition to its program for adults, the work adjustment program provides work-readiness services for adolescents through a joint venture with Yale's Cedarhurst School, a special education secondary school in Hamden.

A year ago, the Community Work Adjustment Program received a grant from the State Department of Mental Health for work services through the Consortium of Community Support Providers—a network of New Haven area agencies that provide assistance to people with disabilities. Funding for individual clients also comes from the Division of Rehabilitative Services, the Veterans Administration and private sources.

Of the 20 clients referred by the consortium to the program, five have already moved on to competitive employment, where they are receiving a regular paycheck. "Others are moving in a similar direction," says YPI Community Services Division director Hill.

FACULTY NEWS

Adrian M. Ostfeld, M.D., and **Alan C. Sartorelli, Ph.D.**, have been elected members of the Institute of Medicine, chartered in 1970 by the National Academy of Sciences to enlist distinguished members of the medical profession to examine policy matters pertaining to the public's health.

Dr. Ostfeld is Anna M.R. Lauder Professor of Epidemiology and Public Health, while Sartorelli is professor of pharmacology and director of the Yale Comprehensive Cancer Center.

Dr. Michele Barry, associate professor of medicine at the School of Medicine and an attending physician at Yale-New Haven Hospital, has been selected to receive a W.K. Kellogg Foundation National Fellowship Award.

Dr. Barry is one of 45 outstanding American professionals who will pursue learning outside their area of expertise. Each Kellogg fellow receives a three-year grant of \$30,000 to fund his or her plan of study.

Dr. Barry set up exchange programs for Yale physicians-in-training in Haiti and Tahzganina. In January she will return to Africa on a six-month sabbatical at the University of Zimbabwe, where she will be visiting professor of medicine.

At Yale, Dr. Barry serves as co-director of the International Travelers Clinic and the tropical medicine program, which she helped develop within the department of internal medicine. She is founder and director of the Southeast Asian Refugee Health Care Clinic at Yale-New Haven Hospital.

At commencement in May, Bank Street College of Education presented an honorary Doctor of Humane Letters degree to **Dr. James P. Comer** for his "exceptional service to children outside formal educational settings." Dr. Comer, the Maurice Falk Professor in the Child Study Center and Psychiatry and associate dean for students, has worked with and written extensively about children, especially black children. He strongly advocates more humane settings for growth and learning.

Dr. Kerry Cooper '79, assistant clinical professor of medicine, was selected by first year assistant residents to receive the Benedict R. Harris Award, an award given annually to the physician who has contributed the most to teaching of house staff at Yale-New Haven Hospital.

Dr. Ralph A. DeFronzo, associate professor of medicine, has received the 1987 American Diabetes Association Award for Outstanding Scientific Achievement by a Young Investigator. The award, sponsored by Eli Lilly and Company, was presented at

the association's 47th annual meeting on June 6 in Indianapolis. Dr. DeFronzo has concentrated his efforts in the pathogenesis and treatment of non-insulin dependent (Type II) diabetes.

Nigel D.F. Grindley, Ph.D., professor of molecular biophysics and biochemistry, was one of 273 artists, scientists and scholars selected as a Guggenheim Fellow for 1987. Guggenheim fellowships are awarded for distinguished achievement and exceptional promise for future accomplishment. Grindley's research will focus on protein-DNA complexes active in recombination.

Dr. Bernard Lytton, professor of surgery (urology), was named master of Jonathan Edwards College, one of Yale's 12 residential colleges for undergraduates. His appointment was effective July 1. Dr. Lytton is chief of the section of urology at Yale-New Haven Hospital and the Veterans Administration Medical Center in West Haven. In 1985, he received the American Urological Association's Hugh Hampton Young Award for his contributions to urology.

Donald M. Quinlan, Ph.D., professor of psychiatry (psychology), was appointed master of Morse College, an undergraduate residential college at Yale, on July 1. Quinlan, whose research focuses on psychological diagnostic testing, is chief psychologist at Yale-New Haven Hospital. He and Sidney J. Blatt, Ph.D., professor of psychiatry and psychology, are editing a book on depression.

Robert Donaldson Named Deputy Dean

Dr. Robert M. Donaldson Jr., acting chairman of the School of Medicine's department of internal medicine, became the school's deputy dean on Sept. 1.

In announcing the appointment, Dr. Leon E. Rosenberg, dean of the School of Medicine, says "Bob Donaldson possesses lengthy experiences in medical administration, both at Yale-New Haven Medical Center and the Veterans Administration Medical Center in West Haven. He has been a creative laboratory scientist, a devoted teacher of students and residents and an excellent clinical chief. He leads by exemplary personal behavior, and he is committed to the highest standards of patient care, research and education."

Dr. Donaldson succeeds Dr. Arthur Ebbert Jr., who has relinquished the dean's office position to take a sabbatical leave of absence. Dr. Ebbert, professor of medicine, was the school's first deputy dean, holding the position from 1974 through Aug. 31, 1987. He also has been assistant and associate dean, serving for 34 years in the dean's office at Yale. "His contributions



Dr. Robert Donaldson

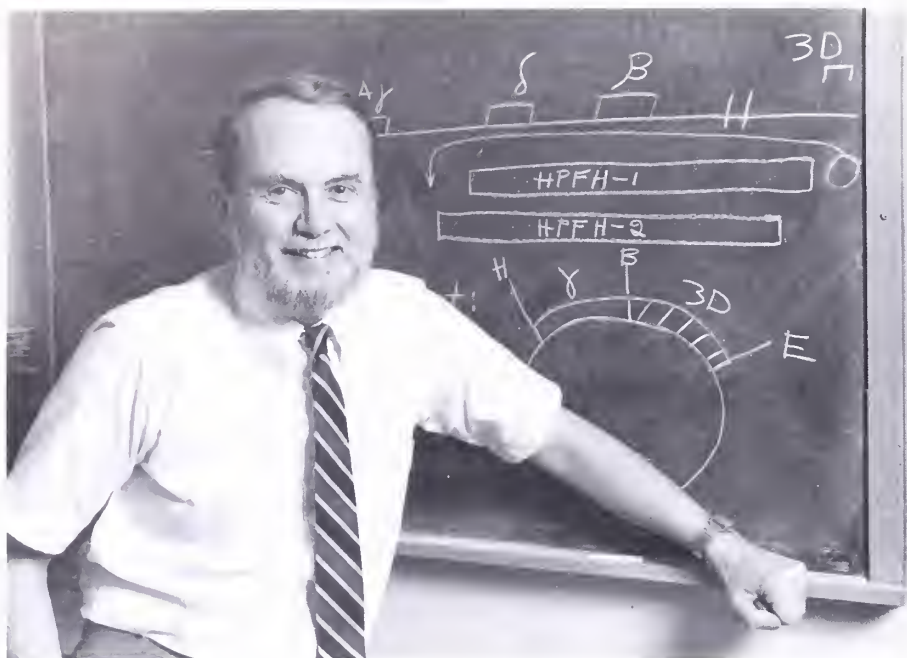
are extraordinary, and his unparalleled record of service and leadership will never be surpassed," says Dr. Rosenberg.

Dr. Donaldson, the David Paige Smith Professor of Medicine, joined the Yale medical faculty in 1973 as professor and vice chairman of the department of internal medicine. Between 1973 and 1982, he was chief of the medical service at the Veterans Administration Medical Center in West Haven. For 20 months, he was acting chairman of Yale's department of internal medicine.

In his research and patient care activities, Dr. Donaldson has focused on the subspecialty of gastroenterology. He has conducted basic research concerned with gastric function, vitamin B12 transport and intestinal bacteria. He also has performed clinical studies related to peptic ulcer disease, liver disease and the diagnosis of gastrointestinal disorders.

Active in many professional societies, Dr. Donaldson served as president of the American Gastroenterological Association in 1979-80. He also has served on several advisory committees of the National Institutes of Health. From 1970 to 1977, he served as editor of the scientific publication *Gastroenterology* and is now chairman of the journal's editorial board.

A native of Wellesley, Mass., Dr. Donaldson received a B.S. degree with high honors in 1949 from Yale University and an M.D. degree cum laude in 1952 from Boston University. After medical school, he interned at Montreal General Hospital and completed residency training at the Veterans Administration Hospital in Boston. He was a postdoctoral fellow in gastroenterology at Peter Bent Brigham Hospital. He also served on the faculty at Boston University, where he directed the gastroenterology division from 1967 to 1973.



DAVID OTTENSTEIN

Dr. Bernard Forget

Forget Named New Associate Dean

Dr. Bernard G. Forget, professor of medicine and of human genetics at Yale, has been appointed to the newly created position of associate dean for research affairs at the medical school, effective Nov. 1.

"Bernard Forget is a distinguished molecular hematologist, a longstanding institutional leader and a man of broad vision and principle. He will combine his new administrative responsibilities with his research efforts," says Dr. Leon E. Rosenberg, dean, in announcing the appointment.

Dr. Forget came to New Haven in 1976 as associate professor of medicine and of human genetics and as chief of the hematology section in the department of internal medicine in the School of Medicine and at Yale-New Haven Hospital. He was named professor in 1978.

During this time, he has centered his research on the molecular genetics of globin gene expression and genes for the red cell membrane protein called spectrin.

Since 1985, he also has directed the physician scientist research training program in the School of Medicine. He also serves as a member of the NIH's Heart, Lung and Blood Research Review Committee.

The author of more than 150 scientific publications, Dr. Forget co-authored, with Dr. H. Franklin Bunn, professor of medicine at Harvard Medical School, the textbook *Hemoglobin: Molecular, Genetic and Clinical Aspects*, published last year. He also serves as an editorial board member for a number of journals.

Dr. Forget has been elected a member of the American Society for Clinical Investi-

gation and the Association of American Physicians. Before joining the Yale faculty, Dr. Forget taught at Harvard Medical School and was an attending physician at the Children's Hospital Medical Center in Boston.

A native of Rhode Island, Dr. Forget received an A.B. degree in 1959 from the University of Montreal and an M.D. degree in 1963 from McGill University. He completed residency training at the Massachusetts General Hospital in Boston, and between 1968 and 1971 conducted research as a fellow at the National Institutes of Health and the Children's Hospital Medical Center.

Two Designated As Harris Professors

Dr. James Leckman and Dr. Fred R. Volkmar were named to endowed professorships. Dr. Leckman is the Neison Harris Associate Professor of Child Psychiatry and Pediatrics, and Dr. Fred R. Volkmar is the Harris Assistant Professor of Child Psychiatry, Pediatrics and Psychology.

The Harris professorships are part of the newly created Harris Program in Child Psychiatry, Child Development and Social Policy, established last year at the Child Study Center with a \$5 million gift from Yale alumni Irving B. Harris and his brother Neison Harris, both of the Chicago area.

Dr. Leckman is the research coordinator at the Child Study Center. His research involves children with severe developmental disorders and the relationship between genetic and environmental factors in the transmission and expression of those disor-

ders. Dr. Leckman also serves as associate program director of the Children's Clinical Research Center, a five-bed research unit funded by the National Institutes of Health.

Dr. Volkmar's work stresses the importance of basic child development research on understanding clinical disorders. His research centers on investigations of developmental psychopathology in infants and children under age five, and studies of severe developmental disorders. He also is concerned with custody issues, developmental assessment and psychiatric diagnosis.

Two Become Emeritus

Dr. Nicholas M. Greene, professor of anesthesiology and attending anesthesiologist at Yale-New Haven Hospital since 1955, was named professor emeritus of anesthesiology July 1. Dr. Greene had been chairman of the department of anesthesiology from 1955 to 1973. He also served as a consultant in anesthesiology to the Veterans Administration Medical Center in West Haven, Stamford Hospital and Waterbury Hospital. Dr. Greene has been editor-in-chief of the journal *Anesthesia & Analgesia* since 1977. From 1975 to 1978 and from 1980 to 1982, he served on the School of Medicine admissions committee.

Dr. Greene is an honorary fellow of the Faculty of Anaesthetists of the Royal College of Surgeons and an honorary member of the Japan Society of Anesthesia.

Dr. David Seligson, a member of the School of Medicine faculty for 29 years, was named professor emeritus July 1. Dr. Seligson was chairman of the department of laboratory medicine from 1971 to 1984. He also was director of clinical laboratories at Yale-New Haven Hospital from 1958 to 1984.

Dr. Seligson is a member and past president of the Academy of Clinical Laboratory Physicians and Scientists and the American Association of Clinical Chemists, and has been honored by both organizations for outstanding contributions to his field.

Noted Pediatrician Assumes Chairmanship

Dr. Joseph B. Warshaw has been appointed professor of pediatrics and chairman of the department of pediatrics at the School of Medicine, and chief of pediatrics at Yale-New Haven Hospital. His appointment was effective Aug. 1.

He succeeds Dr. Howard A. Pearson, professor of pediatrics, who stepped down as chairman to rejoin the pediatric hematology division and continue his research on sickle cell disease and thalassemia.

Dr. Warshaw was an associate professor, then a professor of pediatrics and obstetrics and gynecology at the medical school from 1973 to 1982. He also was director of the division of perinatal medicine at Yale-New Haven Medical Center and director of the newborn special care unit at the hospital during the same period.

"We are pleased to have Dr. Warshaw back at Yale," says Dr. Leon E. Rosenberg, dean of the School of Medicine. "He is a distinguished clinician, teacher, administrator and investigator who has made major contributions to care of the newborn."

Dr. Warshaw is returning to Yale from Texas, where he has been the George L. MacGregor Professor of the pediatrics department at the University of Texas Health Science Center at Dallas, Southwestern Medical School, since 1984. He has been in Texas since 1982 as chairman of the University of Texas pediatrics department, chief of staff at Children's Medical Center of Dallas, and chief of pediatrics at Parkland Memorial Hospital.

"Dr. Warshaw is recognized internationally for his research on metabolic influences on fetal growth and development. There is no doubt that he is an outstanding leader in academic pediatrics and especially in the field of perinatal medicine. He was the unanimous choice of our search committee," says Dean Rosenberg.

In December 1986, Dr. Warshaw was appointed to a four-year term on the National Advisory Child Health and Human Development Council of the National Institutes of Health. He is a member of the research advisory committee of the National March of Dimes Foundation; the committee on research of the American Academy of Pediatrics; the scientific advisory committee of The Hospital for Sick Children in Toronto, Canada; and the scientific advisory board of the St. Jude Children's Research Hospital in Memphis, Tenn.

Dr. Warshaw received his M.D. degree in 1961 from Duke University Medical School. He is a native of Miami, Fla.

GALLERY



Mr. O'Brien the Irish Giant the Tallest Man in the Known World Being Near Nine Feet High

by John Kay (Scottish, 1742-1826)

Patrick O'Brien, born Patrick Cotter in 1760, is thought to have stood 8 feet 1 inch, somewhat less than the "near nine feet" which he claimed. Nevertheless, Cotter's genuine stature, together with his personality and keen business sense, contributed to his becoming a celebrity. Adopting the name O'Brien, he advertised, as did other tall Irishmen, lineal descent from "the old and puissant king Bryan Boreau," a hero of the 11th century. In an age when many who suffered pituitary abnormalities were exploited by entrepreneurial showmen, Cotter assumed control of his own fortune. He acquired significant means by appearing at fairgrounds and in private showrooms where he collected one to two shillings for admission. When he visited Edinburgh in 1803 and was fitted for a greatcoat by a diminutive tailor, the event aroused great public curiosity which was duly addressed by the most popular printmaker of the city with the etching shown here. Shortly thereafter, symptoms resulting from Cotter's acromegaly became debilitating and he retired from public life. He died in 1806.

John Kay, the artist, apprenticed as a barber and was a member of Edinburgh's Society of Surgeon-Barbers until he closed his prosperous shop to devote his full energies to portraiture and printmaking. His print is one of many representing the range of human dimensions to be found in the Clements C. Fry Collection of the Yale Medical Library. — Susan Wheeler

ALUMNI NEWS

Dr. Myron E. Wegman '32, dean emeritus of the University of Michigan School of Public Health, received the 1986 National Sanitation Foundation's Spes Hominum Award for his work as an environmentalist.

Helen M. Tepperman '42 Ph.D., and her husband, Dr. Jay Tepperman, received honorary Doctor of Science degrees at commencement at the State University of New York, Health Science Center at Syracuse. The Teppermans are professors emeriti of pharmacology at the SUNY Health Science Center. Dr. Jay Tepperman was associated with the Yale medical school from 1940 to 1944.

Dr. Walter J. Burdette '42 presented a paper on "The Role of the Surgeon in the Management of Immune Deficiency Syndrome" at the first Beijing Conference on General Surgery in the People's Republic of China. Dr. Burdette, a general and thoracic surgeon in Houston, previously was chairman of the departments of surgery at the Universities of Missouri and Utah and associate director (research) at the University of Texas M.D. Anderson Hospital and Tumor Institute.

Dr. R. Leonard Kemler '43, associate clinical professor of surgery at the University of Connecticut School of Medicine since Oct. 1, 1986, is president-elect of the Hartford County Medical Association. He will assume the presidency on April 20, 1988.

The Association of Community Cancer Centers presented its annual award for outstanding contribution to community cancer care to **Dr. Robert Frelick** '44. Frelick, a former ACCC president and one of its founders, retired in July as National Cancer Institute program director of the Community Clinical Oncology Program.

Dr. Robert E. Cooke '44, professor and chairman of the department of pediatrics at the State University of New York at Buffalo School of Medicine, gave the keynote address at the National Institute of Child Health and Human Development 25th anniversary program on Sept. 21 in Bethesda. Dr. Cooke, who was instrumental in creating the institute—one of the 12 National Institutes of Health—presented his recollections of the conceptualization and founding of the NICHD. Dr. Cooke also is chairman of the Scientific Advisory Committee of the Joseph P. Kennedy, Jr. Foundation. Dr. Cooke was a member of the Yale medical faculty from 1950 until 1956, serving as associate professor of pediatrics and physiology when he resigned in 1956.

The American College of Allergists, at its 42nd annual congress in March, created the John P. McGovern Society to honor **Dr. John P. McGovern** '46 HS, a past president of the ACA. In May, Pan American University, Edinburg, Texas, awarded its first honorary doctorate to Dr. McGovern, founder and chief consultant to the McGovern Allergy Clinic in Houston.

Dr. Paul Talalay '48, the John Jacob Abel Distinguished Service Professor in the department of pharmacology and molecular science at Johns Hopkins University School of Medicine, was elected to the National Academy of Sciences in April.

Dr. David B. Skinner '59 was named to the newly created position of president and chief executive officer of New York Hospital, effective Oct. 1. The hospital, founded in 1771, has a total of 1,460 beds at its Manhattan and Westchester locations.

Col. William H. Heydorn '59 is commander of the Letterman Army Medical Center at the Presidio of San Francisco. Col. Heydorn previously was chief of surgery at the hospital, one of eight U.S. Army medical centers.

Dr. Muriel D. Wolf '59, associate professor of pediatric cardiology at George Washington University School of Medicine in Washington, D.C., has completed a term as the first woman president of the Washington Yale Club.

At the annual meeting in San Diego, on Sept. 29, the American College of Radiology Board of Chancellors awarded **Dr. Royal C. Hudson Jr.** '61, of Lincoln, R.I., a fellowship for his outstanding contributions to the field of radiology.

Dr. Robert I. Levy '61, senior associate vice president for health sciences at Columbia University College of Physicians and Surgeons, has been named vice president for biomedical research for the Association of American Medical Colleges. His appointment is effective Jan. 1, 1988.

In January 1987, New Jersey Gov. Thomas Kean awarded **Dr. Leon Smith** '62 HS, of Essex Fells, N.J., the first annual Clara Barton Medical Service Award for "outstanding effort and contributions to the welfare of human life." Dr. Smith is director of medicine and chief of infectious disease at Saint Michael's Medical Center in Newark.

Dr. Charles B. Anderson '62 serves as professor and chief of the division of general surgery at the Washington University School of Medicine and general surgeon-in-chief at Barnes Hospital, both in St. Louis.

Dr. John T. Harrington '62, professor of medicine at Tufts University School of Medicine, was appointed chief of medicine

at Newton-Wellesley Hospital, a teaching affiliate of Tufts University School of Medicine, June 1, 1986.

In an April 26 feature story, The New York Times asked prominent New Yorkers to predict which people, in their respective fields, will make a difference in the future of New York. For medicine, Dr. Mathilde Krimm, the founding co-chairwoman of the American Foundation for AIDS Research and an associate research scientist at St. Luke's-Roosevelt Hospital Center and at Columbia University College of Physicians and Surgeons, selected **Dr. Stephen C. Joseph** '63, New York City Commissioner of Health. Says Dr. Krimm, "He's a humane person. He has an appropriate view of the relations of AIDS to socioeconomic problems, such as the prevalence of AIDS in poverty."

Dr. Helen L. Smits '67, of Essex, Conn., has been appointed director of John Dempsey Hospital at the University of Connecticut Health Center in Farmington. Dr. Smits, who was interim director since May 1, 1986, is the fourth person and first physician to direct the 232-bed hospital, which opened in 1979. It is the university's teaching hospital.

Dr. John D. Baxter '66, chief of the division of endocrinology at the University of California at San Francisco, received the Medical Society of the State of New York's Albion O. Bernstein, M.D. Award for pioneering work applying molecular and cell biology to the field of endocrinology.

Elizabeth H. Avery '68 M.P.H. of Gwynedd Valley, Pa., has become president and chief executive officer of The Lankenau Hospital and The Lankenau Hospital Foundation in Philadelphia. Her appointment was effective June 22.

Dr. Robert H. Posteraro '73, of Lubbock, Texas, an associate professor in the department of radiology at Texas Tech University Health Sciences Center School of Medicine, was elected to Sigma Xi and promoted to lieutenant colonel in the U.S. Army Reserve.

Dr. Alvin H. Strelnick '75, deputy chairman of the department of family medicine at Montefiore Medical Center in the Bronx and assistant professor in the department of epidemiology and social medicine at the Albert Einstein College of Medicine, received a W. K. Kellogg Foundation fellowship. Dr. Strelnick will study urban communities to identify factors that contribute to their deterioration or vitality.

Dr. Jeffrey L. Sklar '77, assistant professor of pathology at Stanford University School of Medicine and director of the Molecular Diagnosis Service at Stanford Medical Center, and Dr. Abul K. Abbas, a

pathologist at Harvard Medical School, shared the American Association of Pathologists 1987 Warner-Lambert/Parke-Davis Award, presented annually to an individual under 40 for meritorious research in experimental pathology.

At a Sept. 28 convocation ceremony, Mount Sinai School of Medicine named **Dr. Jon W. Gordon** '80 the G. Harold and Leila Y. Mathers Research Professor in Geriatrics and Adult Development. Dr. Gordon, associate professor of molecular biology of geriatrics and adult development, and of obstetrics, gynecology and reproductive science at Mount Sinai, received the honor which recognizes his outstanding research in mammalian development.

William Sabella '83 M.P.H. was appointed AIDS education coordinator and counselor at Yale-New Haven Hospital on Sept. 9. Sabella, a former state of Connecticut AIDS coordinator, will develop risk-reduction programs, provide AIDS education for the hospital staff and assist with counseling individuals who test positive for HIV antibodies.

Wichit Srisuphan '83 Dr. P.H. has been appointed dean of the faculty of nursing at Chian Mai University in Thailand.

NEW BOOKS

America's Family Support Programs, edited by Sharon L. Kagan, Ed.D., assistant professor in the Yale Child Study Center and psychiatry; Douglas R. Powell, Purdue University; Bernice T. Weissbourd, Family Focus, Inc.; and Edward F. Zigler, Ph.D., Sterling Professor in the Yale Child Study Center and Psychiatry. Yale University Press, 1987.

Clinimetrics, by Alvan R. Feinstein, M.D. '54 HS, professor of medicine and epidemiology. Yale University Press, 1987.

Healing AIDS Naturally, first edition, by Laurence Badgley, M.D. '68, of San Bruno, Calif. Human Energy Press, (San Bruno, Calif.) 1986.

Hospitals, Health, and People, by Albert W. Snoke, M.D., lecturer in public health and former director of Yale-New Haven Hospital. Yale University Press, 1987.

The Human Vocal Tract, Anatomy, Function, Development, and Evolution, by Edmund S. Crelin, Ph.D., D.Sc., professor of anatomy (surgery). Vantage Press, Inc., (New York, N.Y.) 1987.

Laryngeal Function in Phonation and Respiration, edited by Thomas Baer, Ph.D.,

lecturer in surgery (otolaryngology); Clarence T. Sasaki, M.D. '66, professor of surgery (otolaryngology); and Katherine S. Harris, Ph.D., City University of New York. Little, Brown and Co., (Boston, Mass.) 1987.

Melancholia and Depression: From Hippocratic Times to Modern Times, by Stanley W. Jackson, M.D., professor of psychiatry and history of medicine. Yale University Press, 1986.

Parents' Book for Raising a Healthy Child, by Morris A. Wessel, M.D. '43, clinical professor of pediatrics. Ballantine Books, (New York, N.Y.) 1987.

The Smoker's Book of Health: How to Keep Yourself Healthier and Reduce Your Smoking Risks, by Tom Ferguson, M.D. '78, of Austin, Texas. G.P. Putnam's Sons, (New York, N.Y.) 1987.

Sports Fitness and Training, by Richard J. Mangi, M.D. '68 HS, associate clinical professor of medicine; Peter Jokl, M.D. '68, professor of orthopaedics and rehabilitation; and William Dayton, lecturer in orthopaedics and rehabilitation.

The Structure of Individual Psychotherapy, by Bernard D. Beitman, M.D. '68, University of Missouri-Columbia. Guilford Publications, Inc. (New York, N.Y.) 1986.

Textbook of General Medicine and Primary Care, psychiatry section, by John Pearce, M.D. '61, of Cambridge, Mass. Little Brown and Co., (Boston, Mass.) 1987.

To Do No Harm, A Journey Through Medical School, by Philip R. Reilly, M.D., '81, Eunice Kennedy Shriver Center for Mental Retardation. Auburn House Publishing Co., (Dover, Mass.) 1987.

Evidence, a novel, by Neil Ravin, M.D. '81 HS, Georgetown University School of Medicine. Charles Scribner's Sons, (New York, N.Y.) 1987.

Second Seed, a novel, by Mary Lake Polan, M.D. '75, Ph.D., associate professor of obstetrics and gynecology. Charles Scribner's Sons, (New York, N.Y.) 1987.

OBITUARIES

Max Alpert, M.D.

Dr. Max Alpert '28, of Bridgeport, Conn., died Aug. 3 after a brief illness. He was 82.

Born in Russia, Dr. Alpert was educated at Yale and had practiced medicine in Bridgeport for 50 years. He is survived by his wife, Claire; a daughter, Rita Steinberger; two brothers, Samuel and Herbert Alpert; and two grandsons.

Thaddeus S. Danowski, M.D.

Dr. Thaddeus S. Danowski '40 died Sept. 12 in Miami. He was a magna cum laude graduate of the Class of 1940 and a faculty member at Yale School of Medicine from 1942 until 1947, when he resigned to become the Renziehausen Professor of Research Medicine and chairman of the department of research medicine at the University of Pittsburgh.

Hugh L. Dwyer, M.D.

Dr. Hugh L. Dwyer Jr. of Woodbridge, Conn., associate clinical professor of medicine, died Sept. 10 after a brief illness. He was the husband of Dr. Dorothea R. Peck '43, associate clinical professor of diagnostic radiology.

Born in New Orleans on Aug. 21, 1917, Dr. Dwyer spent his childhood in Kansas City, Mo., and was a 1939 graduate of the University of Kansas. He attended the University of Kansas Medical School and was graduated from Northwestern University Medical School in 1943.

He trained as an intern and resident at Grace-New Haven Community Hospital, now Yale-New Haven Hospital, from 1943 to 1948. During 1945 and 1946, he served as an Army Medical Corps physician with the Manhattan Project. He was a full-time faculty member at the Yale School of Medicine from 1948 until 1951, when he began his private practice. He continued his association with the medical school, becoming associate clinical professor of medicine in 1952.

He was president of the medical staff of Yale-New Haven Hospital from 1965 to 1967 and a member of the hospital's board of trustees from 1978 until 1984. As one of the first two physicians and the first community physician to serve as a trustee, he was instrumental in creating a stronger liaison between community physicians and full-time University physicians.

In addition to his wife, he is survived by a daughter, Martha M. Dwyer; two sons, Hugh E. and Thomas Duane Dwyer; one brother, Frank Dwyer; and four sisters,

Martha Phillips, Joan O'Connor, Barbara O'Brien and Jeanne Lonergan.

Memorial contributions may be made to the Hugh L. Dwyer Memorial Fund at Yale-New Haven Hospital, or to the Hugh L. Dwyer Memorial Fund at the Yale Golf Course.

Arthur S. Griswold, M.D.

Dr. Arthur S. Griswold '21, retired chief of orthopedic surgery at Bridgeport Hospital, died at his home in Bridgeport, Conn., on April 20.

Born of missionary parents in India, he came to the United States at age 12. He received his undergraduate degree from Yale College in 1918, and after graduating from the medical school in 1921, completed his internship at Bridgeport Hospital. In 1930, he became chief of orthopedic surgery.

He is survived by his wife, Edith; two sons, Gordon and Robert Griswold; and five grandchildren.

Seymour L. Handler, M.D.

Dr. Seymour L. Handler, associate clinical professor in the Yale Child Study Center and psychiatry since 1974, died at his home in Woodbridge, Conn., on May 31 after a long illness. He was 63.

Dr. Handler received his M.D. degree from the University of Louisville School of Medicine in 1950, and came to Yale in 1959 as a resident in psychiatry. Dr. Handler also was a faculty member and former president of The Western New England Institute for Psychoanalysis.

He is survived by his wife, Estelle; three sons, Michael, Robert and Thomas Handler; a daughter, Margaret; and four grandchildren.

James G. Hirsch, M.D.

Dr. James G. Hirsch of New York City, co-chairman of the Campaign for the Yale School of Medicine, a successor trustee of the Yale Corporation and a member of the Yale Development Board, died May 25 at Memorial Sloan-Kettering Cancer Center in New York. He was 64.

A biological scientist and medical educator, Dr. Hirsch was best known for his research in cell biology, particularly his studies of the relationship between white cells in the blood and immune reactions.

Born in St. Louis, Mo., in 1922, Dr. Hirsch was a 1942 magna cum laude graduate of Yale's Sheffield Scientific School and a 1946 graduate of Columbia College of Physicians and Surgeons. After a two-year internship at Barnes Hospital in St. Louis and two years as chief of medicine and pediatrics at Warren Air Force Base in Wyoming, he joined the staff of the Rockefeller Institute for Medical Research, now

Rockefeller University. He remained there for 31 years, serving as dean of graduate studies from 1972 to 1980. In 1981, he became president of the Josiah Macy Jr. Foundation.

As president of the Macy foundation, he helped develop medical education programs for minorities and initiated a program to encourage doctoral candidates in the behavioral sciences to pursue research on human disease.

Nathan Levy, M.D.

Dr. Nathan Levy '27, of Branford, Conn., died April 12 after a brief illness. He was 85. Educated at Yale, he practiced medicine in Branford for 58 years. He is survived by his wife, Bertha; a son, Dr. Harold D. Levy; a daughter, Elaine Kaplan; a sister, Bertha Rosenberg; and six grandchildren. He was predeceased by his first wife, Sadye Brenner Levy.

Garner L. Lewis, M.D.

Dr. Garner L. Lewis '45, a radiologist in Simsbury, Conn., died Aug. 24. He was 67. Educated at Yale, Dr. Lewis was a U.S. Navy physician until he retired in 1964 and entered private practice. Surviving are his wife, Grace Virginia "Jean" Lewis; two sons, Garner R. and Gregory P. Lewis; two daughters, Ruth Ann Coleman and Patricia Stoecker; a brother, Orville N. Lewis Jr.; a sister, Catherine Smith; and 11 grandchildren.

Richard H. Mann, M.D.

Dr. Richard H. Mann '46, retired chief of cardiology at Lancaster General Hospital in Pennsylvania, died May 25 at his home after a 17-month illness. He was 64.

Two months before his death, Lancaster General Hospital honored him by establishing the Richard H. Mann, M.D., Endowment for the Advancement of Cardiology, and renaming its cardiology division the Richard H. Mann, M.D., Division of Cardiology. Considered a Lancaster medical pioneer, Dr. Mann, who joined the medical staff at Lancaster General Hospital in 1954, was the first LGH physician to receive such an honor.

Born in Lancaster, Dr. Mann received a bachelor's degree from Yale's Sheffield Scientific School in 1944 and his medical degree from the School of Medicine in 1946.

Surviving are his wife, Mary Jane; his mother, Anna Hess Mann; two daughters, Dana T. Hutchinson and Lisa H. Gemill; a son, Gregory S. Mann; four grandchildren; and a brother, William H. Mann.

Bruce S. Schoenberg, M.D.

Dr. Bruce S. Schoenberg '68, chief of the neuroepidemiology branch of the National Institute of Neurological and Communicable Disorders and Stroke, died July 14 of cancer. He was 44.

A native of New Jersey, Dr. Schoenberg received a B.A. degree from the University of Pennsylvania in 1964 and his M.D. degree from Yale in 1968. He also received M.P.H. and Dr.P.H. degrees from the Johns Hopkins University School of Hygiene and Public Health, and an M.S. degree in neurology from the University of Minnesota.

After graduating from the School of Medicine, Dr. Schoenberg continued his association with Yale as a part-time lecturer in public health (biometry) until 1981. He also was associated with the Georgetown University School of Medicine and the Mayo Clinic, and was a visiting professor in the neurology departments of universities in Mexico City, Florence, Madrid, Beijing and Lima.

Dr. Schoenberg was the founding editor-in-chief of the journal *Neuroepidemiology* and the author of the textbook *Advances in Neurology: Neurological Epidemiology (Principles and Clinical Applications)*.

Dr. Schoenberg joined the NINCDS in 1975 as chief of the institute's neuroepidemiology section, and became chief of the neuroepidemiology branch in 1984. Dr. Schoenberg was widely respected for his contributions to the methodology of neuroepidemiologic investigations. He helped establish centers for the study of neurological disorders in more than a dozen countries in Asia, Africa, Europe and South America.

On June 23, Dr. C. Everett Koop presented Dr. Schoenberg with the Surgeon General's Medallion—the Public Health Service's highest honor—for his "unique contributions in the field of epidemiology and the neurosciences." Dr. Schoenberg is only the seventh person to receive this honor.

He is survived by his wife, Devera; his son, Ian Charles; his daughter, Claire Jennifer; and his parents, Mr. and Mrs. Mitchell Schoenberg.

Virginia Lee Swanson, M.D.

Dr. Virginia Lee Swanson '52, of Montecito, Calif., died May 20 of cancer. Dr. Swanson was born in Sioux City, Iowa, on June 15, 1922, but she spent her childhood in Los Angeles. As a child she suffered from osteomyelitis. Her experiences with hospitals and surgical procedures led to her decision to pursue a medical career.

Dr. Swanson received a B.A. degree from the University of Southern California in 1947 and her M.D. degree from Yale in 1952. After an internship in pathology, she spent two years in Copenhagen on a U.S. Public Health Service fellowship and re-

turned to Yale in 1955 as chief resident and later assistant pathologist at Grace-New Haven Community Hospital, now Yale-New Haven Hospital.

From 1959 to 1962, she worked as a civilian pathologist with the U.S. Army Command in Japan and New Guinea, and from 1962 to 1965 was chief of the pathology division for the Tropical Medical Research Laboratory in San Juan, Puerto Rico. For her work, the University of Puerto Rico Medical School awarded her an honorary doctorate in 1965.

After a year at the Walter Reed Army Institute of Pathology, Dr. Swanson was appointed associate professor of pathology at the University of Southern California Medical School and staff pathologist at the Children's Hospital of Los Angeles.

Although Dr. Swanson retired in 1982, she continued research in immunopathology and held appointments at the University of San Diego and the Scripps Institute of Oceanography. Most recently, she was a visiting fellow at the department of neuroanatomy at Oxford University in England.

She is survived by her husband, Dr. Martin Kamen; a brother, Robert Swanson; and two sisters, Carole Swanson and Beverly Hill.

William B. Terhune, M.D.

Dr. William B. Terhune died June 26 in Aniston, Ala., of natural causes. He was 93. He had been a Yale School of Medicine faculty member twice during his career. He was a clinical instructor in psychiatry from 1920 to 1922 and a lecturer in psychiatry from 1922 to 1927. He returned in 1941, and was associate clinical professor of psychiatry from 1950 until he retired in 1960.

Reuben Zucker, M.D.

Dr. Reuben Zucker '44 died June 9 at the University Medical Center of Southern Nevada, where he had been a staff member since 1961. Dr. Zucker was 68.

Born May 24, 1919, in Waterbury, Conn., Dr. Zucker earned both his undergraduate and medical degrees from Yale University. Dr. Zucker was responsible for the first medical residency program at Southern Nevada Memorial Hospital, now University Medical Center of Southern Nevada. From 1963 to 1986, Dr. Zucker was chairman of Memorial Hospital's Max C. Fleischman Library Committee, which in 1963 established the first medical library in Las Vegas. In appreciation of his work supporting academic programs and the University library, Nevada Gov. Richard Bryan named April 9 as Reuben Zucker Day in Nevada.

Surviving are his wife, Blanche; two sons, Jeffrey and David Zucker; a daughter, Ellen Frank; a stepdaughter, Kay Green; a stepson, Gary Marsh; and eight grandchildren. He is also survived by a sister, Belle Gruber, and a brother, Zal Zucker.

IN MEMORIAM

William J. Norris, M.D. March 27, 1987	ex med '18
Arthur S. Griswold April 20, 1987	'21 M.D.
Reginald T. Lombard September 18, 1986	'22 M.D.
Elizabeth H. Heinson July 20, 1986	ex med '23
Henry M. Glaubman March 29, 1987	'27 M.D.
Nathan Levy April 12, 1987	'27 M.D.
Max Alpert August 3, 1987	'28 M.D.
Louis M. D'Esopo September 6, 1987	'28 M.D.
Fumiko Yamaguchi-Amano January 8, 1987	'29 M.D.
Lloyd W. Miner February 3, 1987	'32 M.D.
Gilbert E. Moore December 22, 1987	'34 M.D.
Samuel J. Goldberg Jr., M.D. January 30, 1987	'37 HS
Philip A. Bearg May 5, 1986 '43 D.P.H.	'37 M.D.
Willard Emrich Buckley, M.D.	'39 HS
Stuart S. Stevenson September 1987	'39 M.D.
Thaddeus S. Danowski September 12, 1987	'40 M.D.
Frank Payne, M.D. September 22, 1986	'41 HS
John Edward Hughes, M.D. September 10, 1987	'41 HS
Hugh Dwyer, M.D. September 10, 1987	'43 HS
Ira A. Rashkoff September 8, 1987	'43 M.D.
John V. Munro Jr.	'43 M.D.
Roland N. Tessier January 19, 1987	'43 M.D.
Russell A. Morissette, Sr. February 9, 1987	'43 M.D.

Reuben Zucker June 9, 1987	'44 M.D.
Edith L. Glasgow August 6, 1987	ex pbh '44
Garner L. Lewis August 24, 1987	'45 M.D.
Charles S. Judd Jr. July 23, 1987	'46 M.D.
Richard H. Mann May 15, 1987	'46 M.D.
Gregory K. Dwyer, M.D.	'47 HS
Henry W. Baird III April 7, 1987	'49 M.D.
Robert W. Lusk	'51 M.D.
Virginia Lee Swanson May 20, 1987	'52 M.D.
Herman L. Kamcnetz, M.D. June 2, 1987	'57 HS
Robert D. Osborn	'57 M.D.
Bruce S. Schoenberg July 14, 1987	'68 M.D.
Henry P. Fenhager June 30, 1986	'72 M.P.H.
Bernard R. Swan, M.D. June 17, 1987	ex pbh '72
David Evan Sears October 29, 1982	ex med '82
John H. Winfrey Jr. July 31, 1987	'83 M.P.H.
Julia Foley January 12, 1987	'85 M.P.H.

Erratum

Dr. Boy Frame, who died on Aug. 17, 1986, was incorrectly listed in the spring 1986 In Memoriam as a member of the 1948 house staff. Dr. Frame was a 1948 graduate of the Yale School of Medicine. He completed his internship and residency training at Massachusetts General Hospital. Dr. Frame was chairman of the department of medicine at the Henry Ford Hospital in Detroit, and clinical professor of internal medicine at the University of Michigan Medical School.

REUNION 1987

The sun shone on June 5 and 6, and one of the most meteorologically perfect alumni weekends in recent memory unfolded to a record attendance of the past graduates of the Schools of Medicine, Nursing and Public Health.

Highlights of the weekend included superb scientific presentations on both Friday and Saturday by faculty members of eight clinical and basic science departments. The programs were indeed of such excellence that strategies must be generated to achieve wider audiences at future reunions.

U.S. Sen. Lowell P. Weicker Jr. presented a rousing and uplifting keynote address Friday afternoon. Ignoring his prepared speech, he conducted a forum and dialogue with his audience, generating a spirited exchange on health care issues which ranged from AIDS to the funding of basic science research. He concluded, "There is no group in our society which enjoys greater credibility with the general public than the medical profession." He emphasized that there has never been a time when health care issues were generating more questions of national concern. He emphasized that the health professions should be heard. Greeted by Dean Leon E. Rosenberg, the event concluded when Dean Judith Krauss of the School of Nursing presented Senator Weicker a plaque making him an honorary member of the Yale University School of Nursing Alumnae/i Association.



Alan Sartorelli, Ph.D., professor of pharmacology (left), and Dr. Myron Genel, associate dean for government and community affairs, present U.S. Senator Lowell Weicker (R-Conn.) with the first annual Distinguished Service Award of the Yale Comprehensive Cancer Center for his long-term support of cancer research.

sociation for his support of research funds by Congress.

The remainder of Friday was devoted to social pleasures of the dean's reception and a special alumni dinner and dance. Saturday reunion day began with a warm address of

welcome by Sheila Wellington, secretary of Yale University. Mrs. Wellington, a graduate from our School of Public Health, was deputy director of the Yale Psychiatric Institute. She conveyed greetings from President Benno C. Schmidt.

T. CHARLES ERICKSON



Detail of the Sterling Hall of Medicine rotunda.

*You Are Cordially
Invited To*

**ALUMNI WEEKEND
'88**

JUNE 10 and 11

*This year's reunion
classes:*

**1923, 1928, 1933, 1938,
& etc., up to
and including
the Class of 1983.**

"Surgical House Staff of the '40s" Reunion

A reunion dinner of surgical house staff of early and mid-1940s took place June 5 at the New Haven Lawn Club. This reunion was the inspiration of John Frazer, HS ENT '41-'44 recently retired chairman of otolaryngology at the University of Rochester. With the help of Charles Cheney '41, HS '46-'49, John organized a truly memorable gathering.

Many of the attendees had had their residency training interrupted by military service in World War II. After the war, several returned to complete their training. They were members of the house staff at the old New Haven Hospital, where all except the few married ones lived as well as worked. Salaries ranged from 0 to \$100 monthly (chief resident).

Nineteen former surgical house officers attended, including Frazer and Cheney, Ralph Alley, Lloyd Brown, Guido De Blasio, Mal Ellison, Harvey Kausel, Nat Kenigsberg, Ed Kremetz, Frank Lepreau, Jack Parella, Nick Stahl, Bill Kenny (orthopedics), Charlie Petrillo (ENT); Dee Peck and Arnold Janzen (both switched from surgery to radiology). Sid Cramer and Al Kummer (radiology house staff) and Hugh Dwyer and Jim Twyman (internal medicine) were also included. Fifteen wives attended. Elaine Berneike, widow of Bob (urology) and Pat Fiorito, widow of Joe (ob-gyn), were welcomed. Joe Milici, the Yale-New Haven Hospital barber, was guest of honor and was awarded the title of professor of depilatory surgery.

Reminiscences were endless, and conviviality unsurpassed. Each gave a resume of his academic or practice career—several still being in practice—though few doing surgery.

The late Samuel C. Harvey chaired the department in the '40s with Gustaf E. Lindskog following (1948-1966). Dr. Lindskog sent his greetings.

It was a memorable event, and many expressed their hope that it would be repeated with even more surgical house staff of the '40s attending.

D. Peck, M.D. '43

REUNION REPORTS

1927

60th Reunion

by Harry M. Zimmerman

The alumni records of this class, which originally numbered 45 members in 1927, indicated that in February 1987, 15 members remained. Letters to them in early March announcing plans for a 60th reunion in New Haven failed to elicit a single response. Accordingly, I tried to reach as many classmates as possible by phone; this report is a summary of the results.

I learned that **Milton Berman**, whose last address was Miami, died on July 11, 1986. **Henry Fineberg's** son, Coleman, informed us that several years ago his father had a severe stroke that completely incapacitated him. He is confined to a nursing facility on Long Island. Coleman requested that we not attempt to communicate with his father in the future, because it creates a stressful situation for his mother.

Meyer Friedenson, whose last known address was in New Rochelle, N.Y., failed to respond to repeated calls, and I finally was informed that his telephone had been disconnected.

After speaking with **Donald Gibson** in West Redding, Conn., I received a note from him and a generous gift for the Medical School Alumni Fund. He informed me that he was in good shape, but that his wife's illness prevented him from attending our reunion.

I learned that **Henry Glaubman** of Hartford had passed away on March 29. For many years, **Ernesto Icaza** of Mexico City failed to respond to letters, and attempts to reach him by telephone have been equally unsuccessful. He is unknown at the Mexico address we have for him.

I spoke with **Albert Jablonsky** on May 27. He retired from practice about five years ago; he has not been well in recent years and has been hospitalized several times. He spends four months each year near Miami, and the remainder of the year at his home in Jeannette, Pa. Both he and Mrs. Jablonsky were not well enough to attend the reunion.

It was a pleasure to speak with **Lewis James** in his home in Rocky Hill, Conn. He is generally in good shape, but two weeks previously had undergone a successful abdominal aortic aneurysm resection, which prevented his trip to New Haven on June 5. The news about **Nathan Levy** of Branford, which I learned from his son, also a physician in Branford, was that Nate died in Florida of congestive heart failure on April 12. His grandson, also a physician in Branford, spoke at his memorial service.

Attempts to reach **William Meredith** at his latest address in Stratford, Conn., were

to no avail, both by letter and telephone. Equally disappointing were all attempts to reach **Eugene Pfanner**, for whom no current address is available.

Moses Rothberg of Palm Harbor, Fla., supplied the information that his health and his wife's health would not permit them to travel to New Haven. He gave up his practice several years ago.

Alfred Seibert, who now lives in Norwich, Vt., and is on his third cardiac pacemaker, was unable to attend because of recent cataract surgery. He still drives his car, but only for short distances.

I reached **Theodore Sills** at his home in Columbus, Ohio. He, too, has had problems with cataracts, which limit his ability to travel, and so he had to forego the reunion.

The news from **Dawson Tyson** was more encouraging, as far as travel to New Haven was concerned. In spite of coronary artery bypass surgery, Dawson was able to get around fairly well, and looked forward to seeing his classmates.

We have lost contact with, and have no address for, our classmate, **Cora Wong**, who left the medical school after her first year to return to China.

Thus, my wife Miriam and I, and Dawson Tyson were the only representatives of the Class of '27 who attended the reunion festivities. The program sparkled with scientific interest and good fellowship from the returning reunion classes.

1932

55th Reunion

by Clement C. Clarke

Seven classmates and four wives attended, as guests of the University, the Saturday night dinner now known as the "Friends of the 50th" dinner at the Graduates Club. They were **Frank Carroll** and Shirley, Rye, N.Y.; **Clement C. Clarke** (Clare was not well), Woodbridge; **Robert Cushing** and Robin, Long Island, N.Y.; **Lee Farr** and Miriam, Walnut Creek, Calif.; **Conrad Lam** and Marian, Farmington Hills, Mich.; **Rudolph Vandever** (his wife died in 1986), Rome, N.Y.; and **Myron Wegman** (his wife was visiting friends), Ann Arbor, Mich.

Nostalgic letters came from **Edward Holland** in Maine and **Francis Wisner** in California. Ned is not well. Francis, who lost his wife, is climbing California mountains and looking forward to walking the Chinese wall.

Medical school Distinguished Service Awards were given to four honorees, two of whom—**Conrad Lam** and **Myron Wegman**—were from our class.

A unique feature of the "Friends of the 50th" is that representatives of several classes are included. There were varying reactions to this feature. Some felt this cut short the intra-class visitation.

Now that our class is over the "50" hill,

we can welcome every year. If you find yourself eastward bound at the time of the next reunion, let us know and we can have a special class reunion.

1937

50th Reunion

by Wilbur D. Johnston

Six members of the class attended the two-day alumni meeting. All were accompanied by their wives, except **Wilbur Johnston**, whose wife Betty died in 1982. Nature outdid herself in providing two fine June days. It enabled the alumni to enjoy a delightful luncheon, served in Harkness dining room and on the patio under a large tent for those who wished to chat and eat outdoors. Our class was particularly interested in the award presented to **Dr. Harry Zimmerman**, and in the continuing educational program, which consisted of four excellent seminars, climaxed by an address by U.S. Sen. Lowell P. Weicker Jr. of Connecticut.

Jim Morrill and his wife Barbara have been enjoying retirement since 1978 at Heritage Village in Southbury, Conn. He had a private practice in pediatrics in New Jersey, and had been director of pediatrics

at Saint Joseph's Hospital Medical Center. **Dennie Pratt** and his wife are enjoying retirement in Bass Harbor, Maine. He is still best remembered by his ancestors' activities in writing the Ballad of Chambers Street. **Al Rosen**, except for four years in the army, has practiced general medicine in New Haven and claims four children and seven grandchildren as his reasons for not retiring. **Morgan Sargent** retired in 1986, and is now living in Hingham, Mass. He still keeps his hand in at weekly hospital meetings, and spends many days on the golf course. He practiced for 40 years as a general surgeon and surgeon-in-chief at Quincy City Hospital. **Al Spicer** journeyed from Weepapaugh, R.I. where he is retired. Al continued his studies after graduation, received a dental degree and practiced dentistry with his father. He and his wife have traveled extensively, recently in China. **Wilbur Johnston** retired after practicing orthodontics in New Haven for 49 years, although he is still active as a consultant at Yale-New Haven Hospital and clinical professor of surgery (dental) at Yale School of Medicine.

We were the guests of honor at a sumptuous banquet at the Graduates Club; we asked **Dr. Dawson Tyson**, Class of 1927 to

join us. Several members of the Class of 1932 and many members of the Class of 1982 also attended. The five-year alumni added youth to this festive occasion; we hope this joint meeting will encourage their return in future years. We were greeted warmly by **Dr. Nicholas Spinelli**, director for alumni affairs and **Dean Leon E. Rosenberg**. Also present was **Dr. Dwight Miller**, president of the alumni association. Several members who were unable to return sent warm greetings. These included **David Dolowitz**, our class agent; **James DuShane**, **Jean Wells Hollingshead**, **Al King**, **John Thomas**, **Dunham Kirham** and **Bill Cooper**.



(1) A pause for posterity. (2) Will Melton, director of medical school development (left), explains Yale's ambitious plans for expanding the medical center complex. (3) Dr. Richard Swett, '67, contemplates the joys of lunch — and fatherhood. (4) Dr. Dwight Miller, '56, president of the Association of Yale Alumni in Medicine (left) with Dean Rosenberg and Dr. Spinelli.

1942

45th Reunion

by Michael A. Puzak

We met in the upper room at Mory's, a place that has changed a little less than we have, and for that matter, a lot less than the outer aspects of New Haven and the medical complex. The present medical students looked like teenagers, and we wondered if we looked that young when we first met. There were 24 of us, classmates, wives and friends. Although we had been concerned that we might not recognize each other, it was clear that even with changes in girth and hair patterns, we would have known each other if we met in the middle of Manhattan. Each classmate and wife/guest was given a chance to speak on whatever they chose. The prevailing sentiments were not so much on past achievements but on newly found avocations, joys and enthusiasms in life. **Fish** and **Wolfson** are into art, some classmates are into music—the things we never had a moment for in training and practice days.

Returning classmates were **Sam Budd**, **Jim Bunce**, **Walter Burdette**, **Ludmil Chotkowski**, **Nick Fish**, **Bill Harrison**,

Leo Kellerman, **Mike Puzak**, **Sam Ritvo**, **Carter Stilson**, **Maurice Tulin**, **Edgar Taft**, **Irvin Wolfson** and **Charley Scholhamer**. The food was fine, but feelings of mutual love, sympathy, empathy and support permeated the room. The philosophy of Maurice Tulin summed it up: "We were fortunate to be taught by giants at one of the only truly graduate schools in the country. I've never forgotten the values learned, they are constant. Only the facts change."

Telephone calls were successfully completed with the following: **Eugene de Hostos**, **Bill Bloomer**, **Vincent Collins**, **David Decker**, **Hendrik Dekruif**, **Allan Goodyer**, **Bill Fleeson**, **Elihu Friedmann**, **Steve Mullins**, **Randolph Page**, **Joseph Seronde** and **Philip Viscidi**. Letters were received from: **Davitt Felder**, **Elihu Friedmann**, **Allan Goodyer**, **William Fleeson**, **Randolph Page** and **Philip Viscidi**. **Gene de Hostos** suggests more frequent reunions. That thought brought on ideas for a winter reunion in the islands in a few years. Suggestions about this possibility would be welcomed. A more detailed letter is planned to be mailed to each member of the class. Please keep in touch.

1947

40th Reunion

by Philip H. Philbin

The Class of 1947 was well represented for the 40th. We congratulate the Yale Alumni in Medicine for the interesting professional program and update on the current state of the school. The dean's reception and the YAM reunion dance were delightful, great sources of fun and relaxation. The latter was particularly enjoyable; ask **Somberg**, **Lynch** and **Newton**.

The buffet luncheon on Saturday saw many of '47 continuing to refresh each other on current activities and plans. Then the class picture has to be interesting. Saturday night, thanks to **Bill Maniatis'** labors, was outstanding. We met at the New Haven Medical Society building for cocktails and dinner, where Bill had for each, a beautiful pewter dish with the YAM logo. During cocktails and dinner, strolling musicians provided the right background. After dinner, class members gave a short resume of their current activities and further plans.

Brock Lynch is working full time for the VA in Massachusetts. **Bill McClelland** and **Betty** are still in Greenfield, Mass. **Jack** and



5



6

(5) *Connie Tolliver*, assistant to the director of alumni affairs at the School of Medicine (left), reminisces with *Dr. Harold Bornstein*, '53, and his wife *Maureen*. (6) As *Dr. Arthur Ebbert* (left) shares a laugh with *Drs. William Kissick*, *Leon Rosenberg* and *Nicholas Spinelli*, *Sheila Wellington*, MPH '68, chats with *Dr. Helen Langner*, '22. (7) *Merle Waxman*, director of the Office for Women in Medicine, with *Dr. Helen Langner*, '22. At age 90, *Dr. Langner* maintains an active psychiatric practice. In the background are second-year medical students *Tom Christopher* and *Vicky Barber*.



7

Doris Cannon are outside Hartford, where he has sold his practice and his services to the hospital. He's very happy with the deal. **Igor Tamm** was present, but **Olive Pitkin** could not make it. **Root Ziegler** and **Marie** are in the Philadelphia area and into houses. He works for a large pharmaceutical concern. **Vic** and **Barbara Machcinski**, and **Pat Tudbury** have retired to Cape Cod. **Hank** and **Lorraine Blansfield** are about to test the waters of retirement. **Ed Foord** and **Archie Dean** still are laboring in the fields in New Jersey. **Bob Kerin** is still going strong, fixing bones in Connecticut. Coming great distances were the **Friedlanders** from San Francisco, the **Youngs** from Arizona, and **Dick** and **Betty Carlin** from Missouri. All are in active practice, except **Betty** who has decided to let **Dick** handle all professional problems. Down from Maine came **Dick** and **Marion Britton**, and from the Big Apple, **Ellis Van Slyke**. The **Maches**, **Charles** and **Mary Ann**, still love upper New York and their boat. **Frank Epstein** was down from the Boston area, and the **Darrows** from Vermont. **George** and **Ellie Barnes** came all the way from Tucson, where he heads the radiology program. From the New Haven area were **Bob Newton**, **Frank Horton**, **Brad Colwell**, **Roy Breg** and **Bill Collins**. **Bill Maniatis** is in active surgical practice.

Henry Williams and **Larry Perry** seemed very fit, both still in the harness. **Alvin Somberg** and his wife **Claude**, a Parisienne, made the dance, but couldn't get to the dinner. **Rudman**, **Cavanaugh**, **Chernoff**, **Gehrs**, **Golbranson** and **Kimmerling** signed up but never appeared, which was quite disappointing.

There is much we could tell you of each of those attending, but space does not permit. You will have to make the 45th to experience the fantastic emotions of reminiscing with friends from so long ago.

1952

35th Reunion

by *Harvey L. Young*

Thirteen class members attended the reunion dinner, which **Bob Gerety** arranged. As he has done at each reunion, **Mo Bogdonoff** presented a timely summary of medical education and health care as viewed by our 35 years of experience. It was superb, but not recorded for our posterity.

Our group included: **Mo Bogdonoff** and **Diana**; **Frank** and **Barbara Coughlin**; **Bob** and **Maggie Gerety**; **Bill** and **Jean Klatchko**; **Milnor Morrison**; **Bob** and **Janice Nolan**; **Sid** and **Beth Paly**; **Jack** and **Peggy Roberts**; **Don Schultz**; **Doris** and **Garvall Booker**; and **Harvey** and **Hilda Young**. **Bob Gerety** read two letters; one an invitation from **Phil Deane** to visit him in retirement on **Shaw Island** in the **San Juan Islands** of **Puget Sound**, and a letter from **John Filley** who has retired to **Agoura, Calif.** Several visited with **Ray Duff** at his

Woodbridge home and reported on his recovery from a severe and debilitating stroke last November.

The evening's sad note was the announcement that our classmate **Virginia Lee Swanson** of **California** died May 20 of carcinoma of the lung.

The reunion was memorable, and all present agreed that a greater effort should be made to have everyone attend the 40th reunion.

1957

30th Reunion

by *Jack Levin*

The Class of 1957 held a successful 30th reunion, maintaining its tradition of well-attended reunions. Attending were **Vince** and **Daria Andriole**; **Jack Blechner**; **Albert** and **Myrna Chun-Hoon**; **Lou** and **Madeline Cooper**; **Tom** and **Nancy Danaher**; **Joe Demis** and his wife; **Jim** and **Colleen Dorr**; **Ed Eyerma**; **Hal**, **Jo Ann** and **Mike Fallon**; **Ron** and **Estelle Fishbein**; **Tony** and **Mary Fons**; **Liz Forsyth**; **Gil**, **Carol**, **Greg** and **Cameron Hogan**; **Bob** and **Margaret Kaiser**; **Stan** and **Carole Kilty**; **Bill** and **Priscilla Kissick**; **Howie**, **Gretchen** and **Brad Minners**; **Bob** and **Jill Modlin**; **Herb** and **Anne Newman**; **Cliff** and **Barbara Reifler**; **Mel** and **Marianne Roberts**; **Leo MacCallum** and his wife; **Don Stahl**; and **Bill** and **Barbara Waskowitz**.

Continuing the pattern of our 25th reunion, our class assembled after the Saturday luncheon to hear presentations, organized by **Ron Fishbein**, by their classmates and to share experiences. Speakers were **Bill Kissick** on "Managing the Medical Industrial Complex" and **Hal Fallon** on "Current and Future Trends in Internal Medicine".

Our Saturday evening class dinner was held again at the **Pine Orchard** home of **Gil** and **Carol Hogan**. However, this year we had sun rather than the torrential rains of 1982, allowing those who attended to enjoy the lovely environment of **Long Island Sound**. **Howie Minners** assembled a collection of biographic information from the approximately three dozen class members who responded to his questionnaire.

1962

25th Reunion

by *Michael H. Alderman*

Members of the Class of 1962 assembled for their 25th reunion to discover that the passing years had neither muted the enthusiasm that marked their undergraduate days nor dulled the sense of the adventure in medicine that had been so firmly established during their years at Yale. At one time or another during the weekend **Drs. Alderman**, **Anderson**, **Bull**, **Cantor**, **Dann**, **Eisenfeld**, **German**, **Godley**, **Harrington**, **Karney**, **Kosto**, **Marshall**, **Martin**, **Matyszewski**, **Miller**, **Pschirrer**, **Seil**,

Spencer and **Stoutland** appeared and participated in what proved to be a marvelous opportunity to see where we have been, get a sense of where we were, and least reliably, to take a stab at where we might be going. The sample tested—more than one-fourth of the class—although inadequate by rigorous epidemiological standards, was sufficiently large and representative to support at least a few observations and tentative conclusions.

The heterogeneous group that first came to the Yale School of Medicine more than a quarter century ago has not been homogenized either by that undergraduate experience or by what subsequently happened. Our reunion program included a class meeting on Saturday afternoon in the **Day Amphitheater**, where each classmate had the chance to speak about anything he or she wished. Most chose to describe their post-graduation experience; many offered some general observations, and a few spoke more impersonally about the state of the world and medicine in broader terms.

We were a spectrum of individuals that included solo clinicians or practitioners serving in structured private or public groups, academicians, including department chairpersons, directors of medical services, hospital administrators, several laboratory bench scientists, a public advocate for AIDS patients, as well as a rural practitioner recently turned international foundation executive.

Although it is always hazardous to characterize such a diverse group of robust individualists, I think it fair to conclude that those whose primary role was in medical practice were somewhat distressed by an unanticipated changing work environment. In contrast, those employed either academically or in other structured positions (the two polar groups about equal in size) seemed, on the whole, more content with the present and optimistic about the future.

The weekend of catching up and exchanging among nearly 40 classmates and spouses produced a sense of good fellowship and a glow of warming nostalgia. We dined lavishly Saturday night at the **New Haven Lawn Club**, and, after a toast to all—both those present and in absentia—a thoroughly successful 25th dissolved with the universally shared wish that we meet again soon, but no later than our 30th.

1967

20th Reunion

by *Bob Kirkwood*

On Friday night **Jim Dowaliby** hosted an informal get-together at his home in **New Haven**. We sipped wine, enjoyed a delicious buffet dinner and renewed friendships. On Saturday night we had dinner at **Leon's**, the Italian restaurant just southeast of the campus, where many of us ate on Sunday nights during our time in medical school.

We had a good turnout. Those who came the greatest distance were **Bill Perkins**, **Alex Dora**, **John Drews** and **Cindy Rapp Curry**, all from California. **Ken Crumley** came from Albuquerque, N.M.; **Gary Burget** and **Dennis Egnatz** from Chicago; **Ihor Zachary** from Ohio; **Bob Young** and **Dick Hart** from Washington, D.C.; **Karen Harkevey Toker** and **Joe Morris** from Maryland. From the Northeast came **Martin Wand**, **Peter Herbert**, **Tony Lovell**, **Brian Rigney**, **Dick Swett**, **Dave Tilson**, **Jim Dowaliby** and **Laura Kirchman Manuelidis**.

Although some talk centered on our concerns about fundamental changes in medicine, our conversations quickly turned to our personal lives and accomplishments. We enjoyed two wonderfully warm and happy evenings together. I sensed a strong feeling of friendship among us, the same supportive feeling that we had as a class throughout our four years in medical school. We toasted ourselves for having made it this far while still keeping our enthusiasm for medicine, and we wished ourselves luck for the future.

1972

15th Reunion

by *Bruce B. Haak*

The 15th reunion of the Class of 1972 was as anticipated a memorable occasion. The class dinner was held at Reilly's Restaurant, and at the excellent suggestion of **Jerry Meyer**, and with some lead time, our 20th reunion will be scheduled for the New Haven Lawn Club.

Mike Charney was voted as youngest looking among those in attendance. **Tom Converse** is practicing psychiatry in Providence, R.I. **Felix Freshwater** was voted as having best memory of class events after quoting verbatim, **Larry Temkin's** speech in his role as Byron Waxman from the class show of 1970. By the way, although Larry and his wife could not make it, he did send a nice letter indicating that he is practicing cardiology in Tuscon. His wife, Barbara, is practicing psychology, and they have two children, Joshua, 11, and Deborah, who was two in August. **Frank Kahr** and his wife Kathy have returned from Texas and now are in the Providence area. Frank, now known as the "Canoe Man," has in his spare time handcrafted six small boats and canoes. **Mike Kaufmann** has turned the other cheek, so to speak, and now is practicing law in Boston. **Donald** and **Ellen Kent** brought their two lovely children to the dinner. **Phil Leibowitz** and **Jerry Meyer** held down one end of the table and reminisced about many of the events of the Class of '72. **Richard "Dickey" Robins** and **Helen** are living in Columbus, Ga., where he practices as a gastroenterologist. They live on the same street as his mother, says Helen. **Phil Rothfeld**, who lives in Woodbridge, is a practicing radiologist in the Connecticut

Valley area. **Gary Strauss** is practicing oncology in the Wooster area. Sherry and I are looking forward to a gala celebration for our 20th reunion. Hope to see you all then!

1977

10th Reunion

by *Attilio V. Granata*

Amidst a sunny, pleasant New England weekend, 14 members of the Class of 1977 gathered for two days of tours, conferences and nostalgia, climaxed by a reunion dinner on Saturday evening at the Graduates Club on Elm Street across from the New Haven green. Fortunately, a photographer arrived at just the right moment to take a class picture on the front steps.

Along with 10 spouses or guests, the 14 included: **Marcia Arem**, **George Bolen**, **Jerry Brody**, **Harriet Comite**, **Sybil Duchin**, **Julia Frank**, **Attilio Granata**, **Bob Hand**, **Bob Mitchell**, **Mike Owens**, **Alan Penziner**, **Ricky Schneider**, **Gail Sullivan** and **Didi Wasserman**. **Julia Frank** kindly provided us with her carefully cherished album of our second-year show, "Mephistofollies," which had its pre-Broadway run at Harkness auditorium in December 1974. We all agreed that the show truly launched many of our future careers.

After dinner, **Dean Leon E. Rosenberg** answered questions and helped us rekindle some memories. The alumni then updated each other on the whereabouts of most of the rest of the class. **Attilio Granata** shared letters he had received from those who could not attend, including **John Witcomb**, director, emergency services, St. Luke's Hospital, Milwaukee; **Vaughn Kirchoff** assistant professor of internal medicine (infectious diseases) at the University of Iowa; and **Tom Ferguson**, widely known writer and speaker on self-care and the future of health, Austin, Texas.

We felt that being together after 10 years provided a more realistic taste of past foundations, and gave us a bit of perspective. Members of the Class of 1977 toast our school, our teachers and each other, and look ahead to the 15th, 20th, 25th and beyond.

1982

5th Reunion

by *Stephanie Wolf-Rosenblum*
Paula Braverman

None of the Class of 1982 could believe that five years had passed since that pouring, muddy day in May. Not only did the New Haven crowd come, including **Lynn Tanoue**, **Stephanie Wolf-Rosenblum** and **Carrie Redlich**, but **Patty Kellner** and **Paula Braverman** came from as far as Ohio; **Joyce O'Shaughnessy** from Baltimore; and **Jeff Tepler** and **Daphne Hsu** from New York. The largest city rep-

resented was Boston with **Bill Sikov**, **Jessica Herzstein**, **David August**, **Brian D'Angora**, **Michele Masi** and **Jed Gorlin**. There was plenty of time for reminiscing at the dinner hosted by the 50th reunion class. The festivities continued on Sunday at an all-day brunch at Lynn's house.

Many of our classmates are still in training. Bill, Jed and Jeff are doing home-one fellowships. Joyce is going into the NCI's therapy evaluation program. Stephanie and Lynn are pulmonary fellows. Carrie is moving to Seattle to follow suit after finishing occupational medicine in New Haven. David is paying back the NHSC by doing nutrition research at MIT and working part time with "a funky collection of '60s radicals practicing internal medicine." Michelle will be a neuro attending at the Brigham. Daphne is in pediatric cardiology at Columbia, and Patty is doing family practice and urgent care at Case Western. Paula is moving from Cincinnati to do adolescent medicine at St. Christopher's in Philadelphia. Brian is leaving surgery to pursue radiology in Boston.

We also heard about many others including **Lew Rubin**, a neonatologist at Boston Children's, and three budding cardiologists, including **Mary Vandervelde**, pediatric, in Boston; **Colin Lee** in Vermont and **Phil Sager** in New Haven. The surgeons in the group include **Jose Guillem** in New York and **Bob Rizzo**, who is going to Chicago to do CT. Radiology has proven popular, attracting **Pat Toth** and **Henry Stein** in New York from surgery and **Paul Sylvan** from medicine in New Haven. Henry will join **Mike Katz** to do radiology in Michigan.

Ed Dohring will do ortho after his NHSC payback at an Indian reservation in New Mexico, and **Muriel Cyrus** will do ER medicine in Texas after finishing her payback in Alabama. **Gus Simpson-Roth** will begin ob-gyn in Arizona, while **Ron Voit** is in an ob-gyn practice on Maui. **Dave Fassler** and **Bob Pierritini** have a private psychiatric practice in Vermont. Dave has just finished an award-winning film on epilepsy. Other psychiatrists include **Bob Rohrbaugh** in New Haven and **Rich Doan**, pediatrics, in Pittsburgh.

Finishing training are **Laurie Katz**, pathology in Philadelphia; **Terry Massagli**, rehabilitation in Seattle; **Larry Turka**, renal in Boston; **Fred Drennan**, GI in Seattle; **Bert Ungricht**, ophthalmology in Boston; **Don Stromquist**, rheumatology in New York; and **Kate Albert**, Ph.D. at Rockefeller. **Hugh Hemmings** is taking his Ph.D. degree to an anesthesia residency in Boston, while **Jay Kranzler** took his into business.

On a final note we have started the Class of 20??: **Mara Redlich-Revin**; **Joshua Turka**; **Aaron and Debbie (Koenreich) Katz**; **Everett and Gavin Stearn**; **Ariel and Raissa Wolf-Rosenblum**; **Sarah Tepler**; **Andrew Ungricht**; **Angie and Clarice Simpson-Roth** and **Conner Cyrus**.

AYA IN MEDICINE

ANNUAL MEETING 1987

At the annual meeting of the Association of Yale Alumni in Medicine, President Dwight F. Miller introduced Dean Rosenberg, who outlined several ambitious building projects, faculty appointments and honors. The dean also described the highly successful Student Research Day.

Chairman R. Leonard Kemler '43, of the Yale School of Medicine reported receipts of \$540,217 by the Medical School Alumni Fund as of May 27, exceeding our goal for the year of \$500,000. A similar achievement was reported by Mrs. Kay Howe from the Public Health Alumni Fund, with a record \$67,016 received, surpassing a goal of \$50,000.

The Distinguished Service awards for 1987 were presented to four alumni: Dr. Myron E. Wegman and Dr. Conrad R. Lam of the Class of 1932; Dr. Arthur Ebbert, deputy dean of the Yale School of Medicine for the past 34 years; and Dr. Nicholas P.R. Spinelli, director of Alumni Affairs and past president of the Association of Yale Alumni in Medicine. Dr. Ebbert, a graduate of the University of Virginia School of Medicine, was made an honorary and lifetime member of the Association of Yale Alumni in Medicine for his extraordinary service to alumni/ae, students and the school for so many years.

President Dwight Miller also presented special citations to Dr. Helen P. Langner, Class of 1922, on the occasion of her 65th reunion and to Dr. Harry M. Zimmerman, Class of 1926, a distinguished teacher of neuropathology, on the occasion of his 60th reunion. Dr. Miller also presented citations to each member of the 50th reunion to the respective class secretaries: Wilbur Johnston, '37 and Dr. Michael H. Alderman, '62.

Saturday afternoon provided special class seminars conducted by the 25th-year reunion group of 1962 and the 30th reunion Class of 1957. With the planning efforts of Drs. Michael Alderman, Dr. Fred Cantor and Dr. A. Richard Pschirrer, "Reflections of the Class of 1962 at 25" took place in Hope 103. The Class of 1957 presented Dr. William L. Kissick, "Managing the Medical-Industrial Complex;" and Dr. Harold J. Fallon Jr., "Current and Future Friends in Internal Medicine." The record performance achieved by Dr. R. Leonard Kemler, '43, as chairman of the Alumni Fund, was

discussed at the annual class agents meeting Saturday afternoon. The changing needs of student aid were discussed at length. Increasing scholarship awards are becoming necessary for some students in the light of the unrealistically high loan debt with which some students graduate.

The evening concluded with the traditional reunion class dinners held at many sites. Again, the fourth annual "Friends of the 50th" dinner at the Graduates Club was a heartwarming event, with approximately

70 guests saluting the Class of 1937. Also feted was the Class of 1932, with 15 present, and the Class of 1982, celebrating its first reunion with 17 members attending. Dr. Stephanie Wolf-Rosenblum moderated the commentary of this young group, which included two well-behaved "1982" infants.

Dr. Nicholas P.R. Spinelli
Director of Alumni Affairs



BILL CARTER

At the 1987 AYA in Medicine Annual Meeting, (from left) Drs. Arthur Ebbert Jr., Nicholas Spinelli, Conrad Lamm and Myron Wegman were given Distinguished Service Awards for their years of extraordinary service to the Yale School of Medicine. (Please see opposite page.)

DISTINGUISHED SERVICE AWARDS

Arthur Ebbert, Jr., M.D.

Your extraordinary and unique service to Yale School of Medicine began in 1953 when Dean Vernon Lippard appointed you assistant dean of the School of Medicine and has been unparalleled in the history of the school. Your skills in this crucial executive role were to establish your remarkable record as deputy dean for the five succeeding deans, during your 34 years of service. Your sensitive concern and knowledge of all members of the school—faculty, student, administration, alumni—is now legend. Your personal knowledge of medical students, from the graduating Class of 1953, when you arrived, to the present, has rendered you the true archivist for our school and for our alumni association. You are an irreplaceable resource. Your ability to communicate with all of us has been a model of finesse, informed judgment and grace.

We are fortunate today to have inducted you as permanent member of the Association of Yale Alumni in Medicine. We are blessed to look forward to your coming years in New Haven, and our ability to count upon your continued and unmatched support. We thank you for your past assistance. It is with affection that the alumni association salutes you today.

Conrad Ramsey Lam, M.D.

Your distinguished career as a pioneer thoracic and cardiac surgeon, anchored in Henry Ford Hospital in Detroit, has brought you international awards and recognition.

As the eldest of 11 children from central Texas, your Yale School of Medicine education was funded, in part, by your merchandising of musical instruments. The trumpet and music, as well as the study of medicine, occupied your youth and young adulthood. Although Detroit remained your academic home, you responded whenever our medical school sought your help as an alumnus. You served as chairman of the Yale Medical School Alumni Fund from 1963 to 1966. You served as medical school representative to the Alumni Board during those years.

In your long illustrious career, you remained a teacher and role model to many of our graduates. Despite your busy schedule, you devoted attention to your medical school when she sought your counsel or help. Your presence at and assistance with your class reunions has been as constant and unwavering as your love of music. One of a large number of distinguished and accomplished classmates of the Class of 1932, the Yale School of Medicine salutes you and thanks you today.

Nicholas P.R. Spinelli, M.D.

Your service, devotion and dedication to Yale spans 50 years, since you entered as a Yale freshman in 1937.

Your Yale training after military service brought you home to practice as a general internist. You taught Yale medical students, and your service never strayed far from your academic source.

When personal circumstances required that you leave practice in 1968, you became director of medical education at Bridgeport Hospital. In this role, you assisted the Yale medical school to achieve formal affiliation with the teaching community hospitals of the region. The circle of your continued activity at our medical school thus grew in its linkages through the years. Since 1950, you have been Alumni Fund agent for your Class of 1944. You were chosen to be chairman of the Medical School Alumni Fund in the early '70s and have assisted in forming the board of directors of the fund, an effort which has energized annual giving.

You have helped raise the consciousness of our medical graduates and house staff trainees to help meet the needs of our financially stressed students.

You were honored to serve as president of the Association of Yale Alumni in Medicine from 1981 to 1985. In 1985, you were appointed director of medical alumni affairs. You have accelerated communication among our membership, without which our association cannot thrive.

Your alma mater is grateful for your help and applauds you today.

Myron E. Wegman, M.D.

Fifty-five years ago, upon your graduation from the Yale School of Medicine, you began a medical career in academic pediatrics and public health. It was to take you through the byways of the world into top administrative positions in the World Health Organization and as secretary general of the Pan American Sanitary Bureau. In a life dedicated to medical education and international health, with teaching assignments at Columbia, Johns Hopkins, Cornell, Louisiana State University and extensively in Latin America, your path repeatedly brought you back to New Haven for service at Yale. From 1969 to 1972, your duties as chairman of the Yale Medical School Alumni Fund contributed to the process of growth which now renders the fund a major source of support to our students. Your energy, enthusiasm and support of our school and the remarkable Class of 1932 is acknowledged today by your alumni peers who have watched your career with pride, your service with gratitude. Although you are dean emeritus at the University of Michigan School of Public Health, you continue your journeys across the globe today with the youthful vigor which has marked your distinguished career.

1986-1987 ALUMNI FUND REPORT

A Message from the Dean

Our students express enormous anxieties and concern about the high costs of medical education today, and it is a poignant plea that they make. Many will graduate in June with an average indebtedness of \$55,000. This burden threatens our ability to accept and educate the brightest young people regardless of their economic backgrounds.

So as dean, finding additional financial aid for our medical students is one of the major issues which faces me, other administrators and faculty in the School of Medicine and, of course, the students.

The generous past support of medical school alumni/ae has been tremendously helpful in our efforts to address this pressing need. Your support in the form of unrestricted gifts totaled more than \$600,000 in 1986-87, and I as dean greatly appreciate these gifts. Once again I have directed that your contributions be used to assist students, primarily through financial aid.

It is gratifying to note that your total giving has more than doubled during the past three academic years. Nonetheless, I remain deeply concerned about the gap between the funds that alumni/ae provide and the needs that medical students have. To assist our students and to ensure that tomorrow's medical care and scientific research will remain at the high level of excellence we now enjoy, we must generate additional funds and develop new ways to finance medical education for the young people who feel the effects of the high costs of

medical education and who may have their career choices influenced by these costs and subsequent indebtedness.

As we work together to increase the amount of funds available for student financial aid, we must explore new forms of financial aid to supplement our traditional loan awards. Your Alumni Association and its leaders—from President Dwight Miller to Medical School Alumni Fund Chairman Leonard Kemler—will play a significant role in helping the school set this course for our outstanding students.

Dwight, Leonard, along with Sam Kushlan and Roswell Gallagher in their efforts as bequest and endowment co-chairmen, have worked ably to generate gifts to enlarge the Medical School Alumni Fund, and future leaders will be challenged to surpass their fund-raising successes. Dr. Nicholas Spinelli's diligence, both as an alumnus and medical alumni association director, is appreciated, and Ms. Claire Lauterback's consistent administrative contributions are noted too.

During 1987, the many members and leaders of the Medical School Alumni Association have strongly supported the school and its students. I greatly value your important and generous contributions, which I hope you will sustain and surpass. Thank you.

Leon E. Rosenberg, M.D.
Dean



Dean Rosenberg

YALE MEDICAL SCHOOL ALUMNI FUND BOARD

R. Leonard Kemler, M.D. '43,
Chairman
David Raskind, M.D. '24
J. Roswell Gallagher, M.D. '30
Harry Sherman, M.D. '34
Samuel D. Kushlan, M.D. '35
Melvin White, M.D. '39
Nicholas P.R. Spinelli, M.D. '44
William McClelland, M.D. '47
David Kessler, M.D. '48
Samuel I. Goodman, M.D. '51

Harold Bornstein Jr., M.D. '53
Herbert Hurwitz, M.D. '54
Robert Kramer, M.D. '55
William Kissick, M.D. '57
William Waskowitz, M.D. '57
Nicholas Passarelli, M.D. '59
David Hill, M.D. '65
John Foster, M.D. '71
Douglas Berv, M.D. '74

FUND OFFICERS 1986-87

Medical School Alumni Fund
R. Leonard Kemler, M.D. '43,
Chairman
J. Roswell Gallagher, M.D. '30
Bequest and endowment co-chairman
Samuel D. Kushlan, M.D. '35
Bequest and endowment co-chairman,
and chairman, former house staff

Public Health Alumni Fund
Kathleen H. Howe, M.P.H. '56
Chairman

Message from the Medical School Alumni Fund Chairman

Hooray! Hooray! You've done it again. As you will note in the accompanying report, the Yale Medical School Alumni Fund has again set a new record—\$615,000 dollars. It must be satisfying to realize how many students you will be able to help with these monies. Mother Yale, the students and I are very grateful for your interest, efforts and success. The only cloud to darken this picture is that participation remained at the same level. We must try to increase our percentage of participation in future campaigns.

To all of you who responded to the call, again, our heartfelt thanks.

To those of you who have not participated, please reconsider this year, and make a contribution to enable more students to participate in our loan and scholarship program and ease the financial burden on these deserving young men and women.

Let's keep our momentum going with another record in giving and participation for the academic year 1987-88.

R. Leonard Kemler, M.D. '43

The Medical School Alumni Fund last year established the Sterling Association, a new gift club. Donors may join the Sterling Association by making contributions in any of the following six categories:

Lifetime Benefactor	\$50,000 and above
Patron	\$ 5,000 - 49,999
Sponsor	\$ 2,000 - 4,999
Fellow	\$ 1,000 - 1,999
Associate	\$ 500 - 999
Member	\$ 200 - 499

First-year medical students pitch in and solicit alumni support for alma mater. (From left) Nariisse Daye, Victoria Barber, Mindy Schuster and Matthew Miller.



Kemler Increases Fundgiving

R. Leonard Kemler, M.D. '43, has completed his first year as chairman of the Yale Medical School Alumni Fund. In pursuing his goal of increasing the percentage of alumni who participate in fund giving, Dr. Kemler has attempted to speak with each of the approximately 100 class agents. Such personal communication has reaped many benefits. Some class agents of long standing, weary after many years of service, have been replaced at their request. Other classmates have been added to the roster to share the work load.

In addition, leaders among current medical students have been identified, and alumni have shared insights with them about the importance of laying the groundwork for class organization while they are still in school.

Dr. Kemler notes, "Not only does such organization serve a class in its alumni activities after graduation; it is an important psychological support system while they are still students. Bonds are forged which endure for a lifetime." The Alumni Association has planned social events with Yale medical students and hopes to broaden such activities.

As a result of these efforts, the Class of 1988 already has selected two of its Alumni Fund class agents, and the Class of 1987 graduated with its four agents well oriented to their tasks. This group includes: Subba Gollumudi, Mindy Schuster, Barry Weinstock and Mark Widmann. The association will assist the Classes of 1989 and 1990 in similar efforts.

Memorial Established

Mrs. Berthold R. Comeau of Delray Beach, Fla., has established a memorial fund at the School of Medicine in memory of her late husband, Berthold R. Comeau, who received his medical degree from Yale in 1928 and practiced medicine in New York throughout his long career. The gift will be used to support scholarships for students in the School of Medicine, and will be known as the Berthold R. Comeau Memorial Student Financial Aid Fund.

When he learned of the gift, Dean Leon E. Rosenberg expressed his appreciation to Mrs. Comeau. "Assisting our students with adequate financial aid is a major concern of mine," he said. "Our school is proud of our tradition of educating and training the very best students without regard to their financial qualifications. We, therefore, are grateful to you for your much-needed help. With such kindness, we are encouraged that we will be able to continue in the tradition of excellence that has been the hallmark of our school."

Messages to Graduates and Friends of Epidemiology and Public Health

The department's faculty, students and staff are very appreciative of the contributions made to this year's Yale Public Health Alumni Fund drive. We congratulate the alumni who reached new records both in participation and contributions. This clearly is the result of great effort on the part of alumni leadership combined with the deep gratitude and respect so many of our alumni feel toward Professor John D. Thompson, who influenced so many students. The department of epidemiology and public health is proud to share in the expression of this recognition of a dedicated teacher and respected researcher.

*Jan A. J. Stolwijk, Ph.D.
Chairman and Susan Dwight Bliss
Professor of Epidemiology
and Public Health*

The Public Health Alumni Fund for 1986-87 and 1987-88, designated the John D. Thompson Scholarship Fund, surpassed its first-year goal by 50 percent! The early response was so good that the original \$50,000 goal was raised to an unofficial \$75,000, which was reached by the end of the fiscal year.

Credit and many thanks for this extraordinary effort, honoring a teacher par excellence and mentor to several generations of hospital and health services administration students, go to many people: to Edward Noroian, MPH '58, who made a special and effective appeal to the graduates in health services administration; to Stephen Skorcz, MPH '70, president of the Yale University Hospital Administration Alumni, who wrote many personal follow-up solicitations; to the enthusiastic group of local alumni/ae who participated in a highly successful phonathon; and of course to all the dedicated class agents who assisted in the record-breaking event.

We look forward to the continuing support of all EPH alumni/ae and department friends in next year's campaign, when the official goal will be \$75,000, thus enabling the department to award three John D. Thompson Scholarships each year.

*Kathleen H. Howe, M.P.H. '56
Chairman
Public Health Alumni Fund*

Memorials

Deceased medical alumni and friends may be memorialized by a gift at any time to the Medical School Alumni Fund Endowment in the name and class of the person so honored. The next-of-kin of a deceased medical alumnus/a is advised about this In Memoriam Program by a mailing from New Haven some weeks after the School of Medicine receives notification of the death. The letter of information includes a copy of *The Testament of Remembrance* in which the names of all persons so memorialized are listed in the medical section by class, thus establishing a lasting memorial. Donors receive a personal penned note of appreciation from me. Your inquiries and interest are welcome at any time.

Deceased alumni and friends so honored for the first time in 1986-87 were: Berthold R. Comeau '28, Lewis Dickar '30, Edward T. O'Donnell '34, Boy Frame '48, 1942 deceased classmates, 1950 deceased classmates, Bernhard H. Lisker '75, Anthony DeLuca and Thomas M. Tierney.

*Richard G. Jordan
Director, In Memoriam Program*

ALUMNI REPORT



Drs. Richard Breck, '45 (left), and Nicholas Spinelli, '44.

The Alumni Association gave an informal reception May 1 for medical students of all four classes. Approximately 100 students, alumni, faculty and administration assembled in Harkness Lounge. In an informal atmosphere, refreshments were served, and good feeling and warmth prevailed.

Students relaxed and discussed questions about the curriculum, future practice or teaching careers. Drs. Bernard Shen '81 and Attilio Granata '77 chair the association's Student Well-Being Committee. Plans to consult with officers of the Student Council to discuss possible future social events and opportunities to meet with alumni/ae informally were announced.

The universally expressed request in 1985 for more news of fellow alumni/ae has resulted in the publication of several columns entitled MEDICAL SCHOOL in the YALE ALUMNI MAGAZINE. After an initial flood of notes sent to the Medical Alumni Affairs office, the receipt of news items has tapered off. News is urgently requested of all, and a tear-out card is enclosed in this issue. Class columns, published in YALE MEDICINE, will highlight alumni news of professional honors or status changes; the YALE ALUMNI MAGAZINE will feature items of personal and social interests.

The response to the request for volunteers to provide overnight bed and board to Yale medical students visiting 40 cities for residency interviews last year was most enthusiastic. An early letter requesting such volunteers was mailed this summer for 1987. This opportunity should provide an excellent means for students and alumni to exchange information and insights.

Preparations for Alumni 1987 Reunions occupied most of the springtime. An Alumni Weekend event undergoing interesting changes each year is the "Friends of the 50th Dinner," held on Saturday reunion night. It was begun four years ago as a special effort to honor the returning classmates of the 50th reunion class. Members of the older classes, faculty and school officers assemble as guests of the association to share the 50th reunion class dinner and salute them as individuals. In 1986, the first reunion class (five years out) were added as guests or "friends." The latter group historically had poor attendance at their first reunion, usually for financial reasons. Gratifyingly, nearly 20 percent of the fifth-year classes has appeared for two years, and most heartening has been the communication and conviviality between the younger and the older grads.

Since our last report, the subcommittee of House Staff Alumni has appointed Dr. John N. Forrest, Jr. as its chairman. Added to the committee have been Dr. Michael R. Berman, HS '73-'76, assistant clinical professor of obstetrics and gynecology; and Dr. G.J. Walker Smith, HS '69-'73, professor of pathology.

Alumni Records over the years has experienced major deficiencies in the citation of former House Staff and Fellows, amounting to nearly 60 percent of them. Old records currently are being researched. When identified and located, these alumni/ae will be polled as to their desire for active membership in the Association of Yale Alumni in Medicine. An intense identification with Yale medicine has been articulated by those "lost alumni/ae" who have phoned us.

In 1988, this committee will attempt to define this group's role in annual reunions, or perhaps more appropriately, reunions of their own groups. Subspecialty organizations already exist and regularly provide

their own continuing medical education seminars. Dr. Dorothea Peck's description of the reunion of surgical house staff of the 1940s, concurrently with the annual reunion, is typical of such events. Representation of current medical house staff in present association activities seems desirable to underscore early on their membership in the alumni family and future network potential.

This fall Yale medical faculty continued to make regional visits. Dr. Alvan R. Feinstein, professor of medicine and epidemiology, spoke in Hartford on "Muddles in the Model", discussing clinical decision-making. Dr. Robert Gifford, professor of medicine and associate dean for medical education and student affairs, spoke to the San Francisco and Bay area group on the current Yale medical school scene.

Mr. Gail Ferris, director of alumni records, has announced that the Yale University Directory will be kept current. It is available to all medical school graduates from the Rose Alumni House, Association of Yale Alumni, 232 York St., New Haven Conn. 06520.

It is hoped that our efforts of the past year have improved communication among alumni/ae, faculty and students. To transmit information, you must forward it to the Office of Alumni Affairs. With your cooperation, the challenge and potential for alumni to assist ourselves is great.

The director wishes to acknowledge the remarkable service and sage counsel proved by four local alumni/ae: Dr. Samuel Kushlan, '35, Dr. Dorothea Peck, '43, Dr. Richard Breck, '45, and Dr. John Ogilvie, '34. They provide assistance in fund raising (the Medical School Capital Campaign), editorial work, hospitality, social function planning and communications. Alumni/ae in the New Haven area with free time and specific interests are invited to volunteer for membership in this remarkable "kitchen cabinet." Many thanks.

*Dr. Nicholas P.R. Spinelli
Director of Alumni Affairs*

Medical School Alumni Fund Class Participation

	AGENT	1985-86 TOTAL	%PART	1986-87 TOTAL	%PART
1922 and prior		2,180	—	1,519	—
1923	William Cohen	553	67	540	100
1924	David M. Raskind	1,873	67	2,226	100
1925	Alice Whittier	755	70	825	60
1926	Maxwell Bogin	2,927	83	486	60
1927	Harry Zimmerman	1,025	60	1,995	89
1928	Max Alpert	3,569	77	53,765	69
1929	Paul McAlenney	1,341	67	1,296	81
1930	J. Edward Flynn	6,072	70	16,262	71
1931	Michael D'Amico	2,923	79	1,274	71
1932	Henry Brill	2,066	54	14,039	60
1933	Franklin Foote	1,944	73	1,600	71
1934	John Ogilvie	3,898	50	4,210	71
1935	James Haralambie	12,837	57	17,020	59
1936	Frederick Post	108,906*	53	4,239	29
1937	David Dolowitz	1,540	53	6,013*	67
1938	Nelson Ordway	1,065	53	1,036	63
1939	Rebecca Solomon	18,441	67	2,976	58
1940	James Ferguson	8,453	54	9,503	69
1941	Charles Cheney	3,692*	69	17,008	75
1942	Walter Burdette	2,519	53	56,144*	69
1943A	Dorothea Peck	2,908	70	5,406	72
1943B	S. Brownlee Brinkley	2,171	55	2,815	69
1944	Nicholas Spinelli	6,014	76	13,235	71
1945	Richard Breck	4,025	60	3,520	57
1946	Chales Judd	58,100*	75	69,323	52
	Thomas Whelan				
1947	William Roy Breg	4,925	59	12,700*	69
1948	Paul Koehler	6,067	62	6,461	55
1949	Daniel Elliott	3,970	55	4,034	55
1950	David Frucht	4,486	76	16,272	70
1951	Lowell Goodman	6,884*	52	8,778	58
1952	Harvey Young	8,432	57	11,320*	65
1953	Vincent Gott	3,665	52	2,925	44
1954	John Rose	5,088	68	5,273	63
1955	Robert Kramer	6,370	60	5,294	55
1956	John Gardner	15,300*	57	8,267	51
1957	Ronald Fishbein	8,121	64	16,043*	73
	Howard Minners				
1958	Andrew McGowan	6,795	62	9,300	73
	Paul Rudnick				
1959	Asa Barnes	13,898	65	9,769	67
	Muriel Wolf				
1960	Victor Altshul	8,819	58	8,101	57
	Thomas Kugelman				
1961	Earl Baker	13,000*	51	8,875	54
	Annoush Miridjanian				
1962	A. Richard Pschirrer	4,100	40	16,820*	54
	Frank Hartman				
1963	Craig Llewellyn	7,395	58	7,577	54
1964	William Houghton	9,130	72	10,520	66
	William Pratt				
1965	David Hill	5,455	47	13,412	55
1966	Mary Alice Houghton	5,445*	59	5,725	58
	Gary Townsend				
1967	James Dowaliby	6,877	70	15,644*	75
	Anthony Lovell				
1968	Frank Lucente	5,567	47	7,304	57
	Donald Lyman				
1969	Lee Jampol	6,516	60	8,011	60
1970	James Missett	3,526	45	4,104	56
1971	John Cieply	10,411*	61	8,495	48
	Barbara Kinder				
	Paul Lucky	4,983	41	11,178*	58
	Lee Goldman	2,988	38	4,047	42
	John McQuade				
	Jerrold Rosenbaum				
	Amy Schechter	2,370	37	3,385	38
	Robert Schechter				
	Daniel Passeri	1,715	23	1,825	24
	Mary Jane Minkin				
	A William Levy	3,370*	39	3,085	29
	Robert Taylor				

1977	Attilio Granata	1,350	31	2,380*	35
	Ronald Vender				
1978	Duke Cameron	1,520	29	1,935	25
	Seth Powsner				
	Thomas Smith				
1979	Jeffrey Kaine	881	23	1,551	33
	Cynthia Sherman				
1980	Eduardo Alfonso	870	26	1,220	27
	Cesar Molina				
1981	Anthony Urbano	1,310*	24	965	19
1982	Muriel Cyrus	680	21	649*	23
	Jed Gorlin				
	Stephanie Wolf-Rosenbaum				
1983	Michael Tom	535	16	425	14
	David Schwartz				
1984	Hingge Hsu	325	11	620	23
	Jay Kostman				
1985	Robert Higgins	2,299	94	725	26
	Fred Santoro				
	Javier Vizoso				15
1986	Eric Bernstein	—	—	755	
	Clifton Lindo				
	Eric Suan				
	*Reunion				48
Alumni		467,234		577,069	22
Former house staff		11,821	50	19,675	22
Parents/friends		8,558	18	10,396	
Interest/misc. gifts		14,532	18	11,309	41
TOTAL		502,145	41	615,449	

Medical School Alumni Fund

	1985-86				1986-87			
	NUMBER SOLI- CITED	NUMBER CONTRI- BUTED	PERCENT PARTICI- PATION	TOTAL	NUMBER SOLI- CITED	NUMBER CONTRI- BUTED	PERCENT PARTICI- PATION	TOTAL
Alumni	3,583	1,773	50	467,234	3,624	1,753	48	574,069
Former House Staff	1,002	181	18	11,821	1,002	222	22	19,675
Parents/Friends	432	79	18	8,558	432	93	22	10,396
Int/Misc.				14,532				11,309
TOTAL	5,017	2,032	41	502,145	5,058	2,068	41	615,449

Public Health Alumni Fund

	1985-86				1986-87			
	NUMBER SOLI- CITED	NUMBER CONTRI- BUTORS	PERCENT PARTICI- PATION	TOTAL	NUMBER SOLI- CITED	NUMBER CONTRI- BUTORS	PERCENT PARTICI- PATION	TOTAL
Alumni	1,938	618	32	35,201	2,044	669	33	72,455
Int/Misc.	—	—	—	2,339	—	—	—	2,685

Public Health Alumni Fund Class Participation

	AGENT	1985-86		1986-87	
		TOTAL	%PART	TOTAL	%PART
1941 and prior		2,159	—	10,458	—
1942	Eric Mood	420	60	425	60
1943	Eric Mood	90	27	395	36
1944	Eric Mood	275	22	250	22
1945	_____	135	50	80	29
1946	_____	75	29	100	29
1947	_____	330	48	140	35
1948	Samuel Herman	675	44	750	41
1949	Edgar Geibel	465	33	595	42
1950	Eric Mood	685	43	1,150	43
1951	Norton Chaucer	600	50	455	33
	Elizabeth Throm				
1952	Yolande Lyon	695	41	1,075	40
1953	Milton Sisselman	810	52	950	38
1954	Eric Mood	85	21	100	21
1955	Frances Ogasawara	485	44	345	44
1956	David Boyd	672	50	373	40
1957	Edward DeLouise	705	52	1,010	35
1958	Philip Hallen	1,175	29	3,760	36
1959	Dorothy Wilson	430	38	835	46
1960	R. John C. Pearson	1,159	43	195	22
1961	William Slivka	1,075	40	580	32
	Joseph Prekup			400	
1962	Thomas R. Mayhugh	175	30	1,750	50
1963	David Dolins	785	38	1,620	48
1964	Estelle Siker	640	33	2,225	52
1965	H. Patterson Harris	600	31	1,370	45
1966	Allen Cohen	280	27	2,125	37
1967	James Malloy	1,185	32	1,825	34
1968	Arnold Saslow	1,705	51	1,645	41
1969	Samuel Korper	955	32		36
	Robert Young				
1970	Susan Balter	1,533	31	5,205	37
1971	John Bihldorff	1,803	53	2,855	39
1972	Dorothy Lewis	385	17	830	33
1973	Judith Beatrice	1,160	31	5,185	34
	Gary Sax				
1974	Thomas Benoit	765	33	1,190	30
	Karen Lindfors				
1975	Linda Broker	1,602	35	4,142	32
1976	Elaine Anderson	1,140	30	1,240	27
1977	Dorothy Rice	918	29	3,015	30
1978	Ann Freedman	1,123	29	2,988	30
1979	Catherine H. Norton	995	31	1,215	33
	Ralph Tartaglione				
1980	Christina Quinn	1,050	27	1,825	40
1981	Angelo DeVita	1,235	29	855	29
	Barbara Gaugler				
1982	Constance M. Jarowey	750	23	1,700	34
	Jean L. Milton				
1983	Jeffrey Hughes	505	23	1,639	31
	Mary Beth McNerney				
1984	Anthony Alberg	265	15	365	12
	Leslie A. Balch				
1985	Joan M. Cleary	448	15	500	19
	Katherine Fitzpatrick				
1986	Indue Ahluwalla	—	—	720	19
	Aric Wilt	—	—		
Alumni gifts		35,201		72,455	
Interest/misc. gifts		2,339		2,685	
TOTAL		37,540	32	75,140	33

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Alumni

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Charles R. Mitchell*

1908

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1913

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1916

Ernest Russell*

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1920

Oscar Brenner*

1922

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Chester E. Hurwitz*
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1923

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Julius A. Olean*
Hyman W. Weinstein*

1924

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Harold T. Vogel

1925

Dorence S. Cowles
Waldo F. Desmond
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Eli H. Rubin*
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Alice A. S. Whittier

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Moses Rothberg
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1928

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Ralph E. Knutti
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Nathan E. Ross
Robert I. Rubinstein
John M. Russell*
Alvin A. Schaye*
Lewis A. Scheuer

1929

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Charles J. Epstein
Robert A. Frisch
Olive Gates
George S. Goldman
Alexander O. Haff*
John A. Hangen
Harold J. Harris
Paul F. McAlenney
Tony L. Rakieten*
William F. Roth*
Russell B. Scobie
Robert Tennant
Newell Raymond Washburn*
Julius G. Weiner*
Mabel Wilson
Herman Yannet

1930

Daniel N. Beers*
Frederick Fitzherbert Boyce
Charles A. Breck*
Lewis Dickar*
Vincent A. Doroszka
Knox H. Finley
J. Edward Flynn
J. Roswell Gallagher
James C. Hart*
Amy H. Hunter-Wilson
Edmund L. Kitzmeyer
Moses D. Lischner
James M. Lynch*
John W. Maroney
John C. Mendillo
Paul Watson*
Charles L. Wood

1931

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Michael D'Amico
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Thomas C. Jaleski
Rhoda M. Mickey
Nelson Newmark
Abraham J. Schechter
James A. Stringham

1932

Louis K. Alpert
Reginald V. Berry
Henry Brill
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Frank Carroll
Clement C. Clarke
Joseph P. Donnelly
Lee E. Farr
Thomas E. Farthing*
Lewis F. Foster
Conrad R. Lam
Arthur J. Present
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Benjamin N. Tager
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Myron E. Wegman
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1933

Myron John Adams*
Fred W. Buse
Warren P. Cordes
Franklin M. Foote
Jack Greenberg
Daniel F. Harvey*
George K. Hirst
John G. Martin
Raymond E. Miller
Ashley Pond III*
Paul L. Saffo
Sidney Stringer*
John J. Wolfe
Francis M. Woods

1934

Leona Baumgartner
Frederick Beck
James F. Blades
Joseph Budnitz
Francis P. Guida*
Derick A. January
Knowles B. Lawrence
Herbert C. Miller
Edward Thomas O'Donnell
John B. Ogilvie
Lucien M. Pascucci
Harry Sherman
George Zalkan*

1935

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Sawnie R. Gaston
H. Hoffman Groskloss
James Quintin Haralambie
W. Howard Horner
Mildred Hartshorn January
Samuel D. Kushlan
Donald Peter Morris*
Norman E. Peatfield
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Norman P. Rindge
Milton Rose*
Clark P. Searle
Walter A.L. Thompson
Samuel Zelman

1936

Daniel Bergsma
Lester W. Burket
Albert W. Diddle
Margaret C. L. Gildea
George Hahn*
Louise G. Hutchins
Philip M. LeCompte
Frederick A. Post
Margaret Sommers
Morris Tager

1937

Edmund R. Blower
William G. Cooper, Jr.
David A. Dolowitz
D. Crosby Greene
Joseph B. Hollinshead
Benjamin F. Hoopes
Wilbur D. Johnston
Alfred E. King
Dunham Kirkham
Julia Mehlman
James P. Morrill

Charles W. Neuhardt
T. Dennie Pratt
Alan A. Rozen
Morgan Sargent
Edward J. Shaw
Albert D. Spicer
John M. Thomas
Jean Wells
Lorande M. Woodruff

1938

Roy N. Barnett
Henry L. Carideo
S. Charles Kasdon
Benjamin E. Lyons
John J. McGillicuddy
Edward Nichols
Nelson K. Ordway
Edward W. Pinkham, Jr.
James Radcliffe, Jr.
George E. Roberge
Lester J. Wallman
J. Richard Zahn

1939

Harold H. Coppersmith
Norman L. Cressy
William H. Druckemiller
Robert G. Ernst*
John P. Ferguson, Jr.
Joseph B. Forman
S. Jerome Greenfield
Nathaniel Kenigsberg
Arthur E. Laidlaw
Ward J. McFarland
James Peter Murphy
Russell Nahigian
Douglas S. Riggs
Ernest L. Sarason
Bradford Simmons
Rebecca Z. Solomon
John D. Tobin
Douglass W. Walker
John H. Wentworth
Malvin F. White

1940

Theodore E. Allen
Joseph V. Baldwin
Ronald S. Beckett
Jack S. Blaisdell
Philip S. Brezina
Thaddeus S. Danowski
Wynant Dean
Richard E. Dormont
Robert M. Dunlap
James F. Ferguson, Jr.
Eugene J. Fitzpatrick, Jr.
Henry D. Humphrey
H. Stuart Irons, Jr.
Donald G. Johnson
Ira D. LeFevre, Jr.
Paul D. MacLean
Edward Martin
William R. Oakes
Maurice Ross
W. Norman Sears*
Joseph E. Sokal
J. Champneys Taylor
Patricia E. Wanning
John B. Wells
Helen H. Woods

1941

Robert H. Alway
Robert H. Areson
W. Randal Bell
Knute E. Berger

William A. Carey
Joseph P. Carson, Jr.
Charles B. Cheney
Herbert W. Diefendorf
Robert Dine*
John E. Fenton
Lloyd D. Flint
John Franklin
Robert L. Gilbert
Frederick P. Glike
William Edmund Kenney
Sidney L. Lasell
Bjorn Lih
F. Eugene Martin
Willys M. Monroe
Malcolm C. Murfitt
Edward B. O'Connell
Robert W. Ollayos
Gioacchino S. Parrella
David V. Pecora
Edwin D. Rogers
Leslie Simmonds
Janet H. Van Orden
Irving Waltman

1942

William E. Bloomer
James M. Bunce
Walter J. Burdette
Robert E. Carroll
Donald S. Childs, Jr.
Ludmil A. Chotkowski
Vincent J. Collins
David G. Decker
Hendrik DeKruif
Davitt Felder
William Fleeson
Elihu Friedmann
Allan V.N. Goodyer
William Harrison, Jr.
Leo Kellerman
John R. Lincoln
Patrick S. Mullins
Dean Nichols*
Michael A. Puzak
Samuel Ritvo
Charles F. Scholhamer
Richmond W. Smith, Jr.
Edgar B. Taft
Maurice Tulin
Francis P. Voss*
Arthur A. Ward, Jr.
Irving Norman Wolfson
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1943 March

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Gerard Fountain
Stuart L. Joslin
R. Leonard Kemler
Joseph P. Kriss
Jonathan T. Lanman
Douglas Lindsey
J. Philip Loge
Henry E. Markley
Walter J. J. Nero
Dorothea R. Peck
Earl J. Rhoades
Henry A. Riedel
Bernard R. Rowen
Marcus E. Sanford
Robert A. Sears
Edward Hersey Soule
Hilliard Spitz
Nicholas M. Stahl
Sophie Trent Stevens

Oliver G. Stonington
Frederick A. Waldron
John J. Weber
Robert H. Wyatt

1943 December

John R. Almklov
David G. Borden
Robert F. Bradley
S. Brownlee Brinkley
Henry B. Bruyn, Jr.
Thomas L. Bucky
Jane B. Cadbury
Philip B. Chase
Hunter H. Comly
Norman I. Condit
Thomas D. Cook
Ronald W. Cooke
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Robert H. Furman
Victor C. Hackney
Fred M. Haddad
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Sawyer E. Medbury
Hoyt B. Miles, Jr.
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Benjamin R. Robinson, Jr.
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Francis A. Spellman
C. Wesley Watson

1944

Carl E. Andrews
John C. Coolidge
George B. Corcoran, Jr.
Frank W. Countryman
Lawrence G. Crowley
John H. Doherty
Robert W. Frelick
Carol Goldenthal
Charles A. Hall
Robert I. Hinkley
Donald W. Holden
W. Raymond James
Ward S. Jenkins
Edith M. Jurka
John Weaver King
Frederick F. Krauskopf
Ronald E. Losee
Ellen P. MacKenzie
Elias J. Marsh
Katharine Hawley Martin
Joseph Massaro
A. Reese Matteson
Paul E. Molumphy
Lawrence K. Pickett
Laurence G. Roth
Haynes W. Sheppard
Sarah P. Sherwood
Eugene Smith
Nicholas P.R. Spinelli
Priscilla Dines Taft
Anthony Varjabedian
Calvin W. Woodruff
Reuben Zucker*

1945

George Howard Allison
Albert S. Atwood
Frederic M. Blodgett
Frederick W. Breck
Joseph H. Burr
James Shepard Cary
John E. Cohn
Thomas P. Cotter
James M. Daniels

Robert S. Easton
Alice Dershimer Friedman
Raymond A. Gagliardi
Philip S. Good
Gove Hambridge, Jr.
Herbert S. Harned, Jr.
Paul W. Hoffert
O. Roger Hollan
Hans R. Huessy
Leland W. Jones
Raymond E. Lesser
Garner L. Lewis
Mark McD Lindsey
James R. Mason
George W. Naumburg, Jr.
Fitzhugh C. Pannill
Richard M. Peters
Charles E. Sherwood
Joseph R. Stanton
Kenneth C. Steele

1946

Margaret J. Albrink
William G. Banfield, Jr.
Aaron T. Beck
Franklin C. Behrle
Linus W. Cave
Thomas J. Coleman
Robert R. Cooper, Jr.
Thomas A. Doe
Edward F. Edinger
Gregory E. Flynn
Martin E. Gordon
Charles S. Judd, Jr.
Benjamin F. Kitchen, Jr.
James A. Kleeman
Vincent J. Longo
Richard H. Mann*
Thomas J. Mathieu
Hugh J. McLane
John H. Morton
Laura W. Neville
John F. Neville, Jr.
Francis G. Reilly*
David H. Riege
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Donald P. Shedd
Richard G. Sisson
Robert R. Wagner
Thomas J. Whelan, Jr.

1947

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John E. Bowers
W. Roy Breg, Jr.
Richard G. Britton
M. Richard Carlin
Charles R. Cavanagh, Jr.
Roland G. Chambers
Amoz I. Chernoff
William F. Collins, Jr.
Bradford S. Colwell
Robert P. Darrow
Archie L. Dean, Jr.
Jean H. Dougherty
Owen W. Doyle
Franklin Harold Epstein
Edward Foord
Richard K. Friedlander
Stephen W. Gehrs
Frank H. Horton
Robert J. Kerin
Don F. Kimmerling
Anton N. Lethin, Jr.
Richard P. Levy
Brock Lynch
Victor A. Machcinski
Charles L. Mache, Jr.

William K. McClelland
Robert F. Newton
Myron K. Nobil
Lawrence C. Perry
Philip H. Philbin
Olive E. Pitkin
Irving Rudman
Alvin Somberg
Igor Tamm
Patricia B. Tudbury
Ellis J. Van Slyck
M. Henry Williams, Jr.
Sumner Root Ziegler

1948

Russell J. Barnett
George F. Batten
Edith M. Beck
Allyn G. Bridge
Richard Steele Buker, Jr.
Ruth E. Cortell
Richard H. Cote
G. Robert Downie
Victor A. Drill
Elizabeth Fuller Elsner
Boy Frame*
Emil Frei, 3d
Julian Frieden
Allan Green*
B. Herold Griffith
Sylvia Preston Griffiths
Richard M. Hannah
Ross R. Harcus
Paul B. Koehler
Robert E. Lempke
John P. Morris
John B. Morrison
Lewis P. Rowland
Benjamin F. Rush, Jr.
Gabriel A. Saviano*
Jerome H. Shapiro
Jessie Parkinson Spear
Anne G. St. Goar
Paul Talalay
Wallace W. Turner
Paul Woodbury Weld

1949

William G. Anlyan
Henry W. Baird, III*
DeWitt C. Baldwin, Jr.
William D. Bevis
Jonathan S. Bishop
Phillip G. Couchman
Mary Pucci Couchman
N. Joel Ehrenkranz
Daniel W. Elliott
Gunnar O. Eng
Albert A. Fisk
Eleanora C. Gordon
Frederic W. Gray
Jackson Harris
Gordon D. Jensen
Benjamin A. Johnson
Timothy F. Nolan, Jr.
Richard D. Otis
Julian I. Pichel
Edmund L. Piper
Charles L. Rennell, Jr.
Murray Z. Rosenberg
Daniel Rudman
William H. Sewell
Lawrence E. Shulman
R. David Sudarsky
Martha Vaughan

1950

Russell N. Anderson
Lyal D. Asay

Sylvia L. Axelrod
John E. Borowy
William H. Bucher
Alvin Davis
Claude W. Delia
Kent Ellis
Thomas J. Ferraro, Jr.
Daniel Fine
David A. Frucht
Carl A. Gagliardi
Melvin H. Kaplan
Sidney S. Lee
Janus C. Lindner
Margaret S. Lyman
Harold March
Harry L. McClelland
John H. Meyers
Orlando J. Miller
Robert T. Sceery
Cynia B. Shimm
Jane B. Shumway
Martin E. Smith*
John S. Strauss
Robert H. Sturman
Myra D. Tyler
Class of 1950 In Memorial Fund

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W. Robert Adams
Frank R. Allen
Thomas T. Amatruda, Jr.
Stanley D. Ardell
Eleanor Clay Bigley
Daniel X. Freedman
Sidney S. Furst
Joseph M. Garland
Lowell I. Goodman
John T. Groel
Robert N. Hamburger
John V. Haxo
Carroll K. Iverson
Robert D. King
Jocelyn S. Malkin
Francis L. Merritt
Paul D. Millikin
Walter S. Morgan
Albert R. Mowlem
Richard S. Munford
Ismail Nik Nevin
Charles A. Nugent, Jr.
Gerard B. Odell
Arthur A. Pava
Majic S. Potsaid
William F. Stephenson
John L. Sullivan
William Taylor*
James Walker
Andrew S. Wong

1952

John W. Arnold
Maurice L. Bogdonoff
Frank A. Carone
Willard R. Centerwall
Siegfried A. Centerwall
Frank R. Coughlin, Jr.
Richard N. deNiord, Jr.
John P. Filley
Richard D. Floyd
Robert P. Gerety
William Joseph Johnson
Thomas S. Kelly
William W. Klatchko
N. Karle Mottet
Robert F. Owen
Sidney Nathan Paly
Robert G. Petersdorf
Leon A. Phillips
John Macklin Roberts

Leonard Rush
Elizabeth M. Rush
Mary Wheatland Schley
Donald H. Schultz
Robert B. Schultz
Virginia Lee Swanson*
John H. Wagner, Jr.
Doris L. Wethers
John L. Wolff
Harvey L. Young
Robert Zeppa

1953

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William R. Chaffee
Allen Chetrick
Rex B. Conn
James P. Dunn
Donnell Dencil Etzwiler
Vincent Lynn Gott
Robert Emanuel Hamlish
A. Daniel Hauser
George L. Hoffmann
David Purdy Holman
Richard Robert Knowles, 3d
Robert N. Melnick
Robert L. Nolan
Warwick Potter, Jr.
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Barbara F. Rosenber
Irwin K. Rosenberg
Virginia C. Saft
Ora K. Smith
Lynn Cortland Stoker
William Junior Vandervort
William August Wilson

1954

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Donald D. Davis
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Nicholas A. Halasz
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Walker R. Heap, Jr.
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Harry C. Miller, Jr.
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Lowell E. Olson
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Anthony V. Piccirillo
Richard D. Pullen
Jacques M. Quen
Earl D. Rees
John Keith Rose
Elihu M. Schimmel
Leonard M. Silverman
Robert L. Stein
Martin B. Vita
John W. Vosskuhler

1955

John B. Atwater
John C. Bailar, III
George E. Becker
E. Edward Bittar

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 Irwin M. Braverman
 Edward Noel Brennan
 Padraic Burns
 Leo R. Cardillo
 Nicholas A. Coassin
 Edward D. Coppola*
 Milton Corn
 Pasquale James Costa
 Robert G. Crounse
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 Fred Wendell Doyle
 Leroy Engel
 F. Robert Fekety, Jr.
 Edwin G. Fernand
 Mahlon V.R. Freeman
 James Conway Garlington
 Barbara W. Gibson
 Paul Gonick
 Ion Gresser
 John H. Hodge
 D. Franklin Johnson, Jr.
 Harry O. Kendall
 David R. Kessler
 Robert A. Kramer
 James Lum
 Joseph S. McGuire, Jr.
 Robert C. Nodine
 Gloria C. Onque
 John C. Pace, Jr.
 Robert H. Peters, Jr.
 Gregory Peterson, Jr.
 Robert A. Reich
 Paul J. Robinson
 F. Brantley Scott, Jr.
 Clement B. Sledge
 Phillip W. Smith

1956

Levon Z. Boyajian
 Rosalie A. Burns
 Joseph C. Cerny
 Edwin L. Child
 Chandler Dawson
 S. Evans Downing
 Mitchell Edson
 Gilbert M. Eisner
 Thomas F. Ferris
 John H. Gardner, III
 Sumner Gochberg
 George E. Green
 Arne G. Haavik
 Armen Charles Haig
 John Herd Hart
 Robert L. Hill
 William H. Hindle
 Marie-Louise T. Johnson
 George T. Kammerer
 Jerome O. Klein
 William V. Lewit
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 Robert McDivitt
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 David A. Page
 George W. Paulson
 Robert Lee Scheig
 James Scheuer
 Edward C. Senay
 Benjamin A. Shaver, Jr.
 Daniel R. Silbert

1957

Donald Agostinelli
 Joseph S. Amenta
 Jack Norman Blechner

Richard I. Breuer
 Harry C. Briggs
 Carl A. Brinkman
 John P. Carey
 Albert K. Chun-Hoon
 Louis Z. Cooper
 Harold Dick Cross
 John D'Agostino, Jr.
 Thomas H. Danaher
 James R. Dorr
 Edward Louis Eyerman, Jr.
 Salvatore Falbo
 Harold J. Fallon, Jr.
 Ronald H. Fishbein
 Robert E. Fishbein
 James R. Fitzgerald
 Anthony L. Fons, 3d
 Elizabeth H. Forsyth
 Edward O. Fox
 Gary A. Fry
 Robert H. Glass
 Anne H. Good
 Jack Peter Green
 Gilbert F. Hogan
 Warren R. Johnson
 Richard Lee Kahler
 Stanley E. Kilty
 William L. Kissick
 Willard A. Krehl
 Jack Levin
 Bennett F. Markel
 Mark D. Marshall
 Howard A. Minners
 Robert K. Modlin
 Hugh Lamson Moffet
 Herbert A. Newman
 Joseph S. Pagano
 Raymond E. Phillips
 Clifford B. Reifler
 Arnold Schoolman
 Kenneth A. Simon
 Charles A. Slanetz, Jr.
 Gilbert B. Solitare
 Robert W. Southworth
 Donald C. Stahl
 Arthur Taub
 Romeo Vidone
 William J. Waskowitz
 Herbert Winston
 James G. Zimmer

1958

George K. Aghajanian
 Don P. Amren
 Joseph E. Angelo
 John P. Arnot
 Peter Alfred Benson
 Gerard N. Burrow
 Benjamin Bursten
 David A. Carlson
 John A. Carlston
 Joseph James Cillo
 Robert V. Diserens
 Robert J. Donohue, Jr.
 Lawrence Dubin
 Donald A. Duncan
 Joel C. Eberlin
 Philip R. Fazzzone
 Michael E. Fishman
 Peter A. Flynn
 Raymond A. Gaito
 John C. Gallagher
 Marcia Kraft Goin
 James Greenwald
 Charles A. Hall, Jr.
 Stanley Harris
 Michael Kashgarian
 Haskins K. Kashima
 Jay Ward Kislak

Theodore W. Lieberman
 Myron Lotz
 Thomas J. Mauro, Jr.
 Michael J. McCabe
 Leo T. McCallum
 Andrew Joseph McGowan, Jr.
 John A. Merritt, Jr.
 Richard Charles Miller
 Albert Muggia
 Robert S. Neuwirth
 David W. O'Keeffe
 Carol F. Phillips
 David M. Pugh
 William B. Radcliffe
 Paul A. Rudnick
 Thomas R. Shea
 Bruce H. Sklarew
 Edward Lloyd Socolow
 Raymond W. Turner
 Margaret Smith Wenzel
 Joseph P. Wierzbinski, 3d
 John Patrick Wood
 Pauline B. Wood

1959

Scott Ingram Allen
 Carol J. Amick
 Robert M. Amick
 Asa Barnes, Jr.
 Francis A. Beer
 Jack F. Bowers
 William C. Butterfield
 Med. Class Of 1959
 Edwin M. Clayton
 Sidney M. Cohen
 Martin Colodzin
 Lyall S. Crary, Jr.
 Ronald C. De Conti
 Gerald Fenichel
 Robert L. Fisher
 Paul Jay Friedman
 Robert J. Gonyea
 Gerald B. Gordon
 W. Keith Hadley
 H. Rodney Hartmann
 William H. Heydorn Mc, Usa
 C. Richard Hinkley
 Leonard Inker
 John J. Jasaitis
 Edvardas Kaminskas
 Herbert J. Kaufmann, Jr.
 David W. Kingsbury
 Myron S.S. Lee
 Kathryn Huxtable Lewis
 John C. Marsh
 Brian J. McGrath
 James A. O'
 Robert H. Ostberg
 Nicholas M. Passarelli
 Charles A. Phillips
 Lincoln T. Potter
 James D. Prokop
 James R. Ralph
 David Pardee Reed
 Joseph D. Saccio
 Constantine J. Sakles
 Marc D. Schwartz
 Owen A. Shteir
 Sanford P. Solomon
 Gene W. Spector
 James J. Stagnone
 Lisa A. Steiner
 Lois Withrow Tice*
 Leo H. Von Euler
 Muriel D. Wolf
 Class of 1959

1960

Victor Altshul
 Jack D. Barchas
 Ormond V. Brody
 Donald P. Buebendorf
 Thomas E. Carson
 Stanley M. K. Chung
 Francis D. Coglian
 Jon E. Courtney
 John M. Davis
 David Paul Dunn*
 Caldwell B. Esselstyn, Jr.
 Warren H. Fisher
 Paul Jay Friedman
 James I. Gilman
 Maxwell E. Gottesman
 Roland H. Ingram, Jr.
 Daniel M. Jones
 William S. Kaden
 Eric P. Kindwall
 Susan T. Kleeman
 Thomas P. Kugelman
 Edward R. Lang
 Edward Longo
 Eugene G. McCarthy, Jr.
 Donald L. Miller
 Richard G. Morrill
 Allan W. Newcomb
 Buford L. Nichols, Jr.
 J. Thomas Okin
 Jerrold M. Post
 Nancy Rolick Powell
 Charles H. Robinson, Jr.
 Albert Matthew Ross
 Daniel J. Rubin
 John J. Schrogie
 Ross L. Snyder, Jr.
 Fred Stargardter
 Robert C. Wallach
 May Yung-Fun Woo Wang
 Ronald A. Yankee
 Class of 1960

1961

Kenneth A. Arndt
 Frank H. Baker
 Albert A. Bechtoldt, Jr.
 Robert S. Briggs
 David William Brook
 Orson R. Dee
 Paul David Deiter
 Ralph J. DePonte
 Ronald A. Dierwechter
 Jon Dudley Dorman
 T. Wayne Downey
 John E. Fenn
 Edward C. Gilbert
 Robert Sterling Gillcash
 David D. Griffith
 Walter J. Hierholzer, Jr.
 Richard L. Keefe
 Robert Isaac Levy
 Hugh James Lurie
 Joseph Richard Lusby
 Sally Lockwood Marchesi
 Vincent T. Marchesi
 David B. Matloff
 Anoush Miridjanian
 Richard Allen Moore
 Norman I. Moss
 Roland D. Paegle
 John Curtis Parker
 William M. Rogoway
 Roy E. Ronke, Jr.
 Shaun J. Ruddy
 Stanley G. Schade
 Robert N. Taub
 Hugh C. Thompson, III
 Franklin H. Top, Jr.

David E. Weaver
 Warren D. Widmann
 John R. Woodward

1962

Paul H. Ackerman
 Michael H. Alderman
 Charles B. Anderson
 Frederic P. Anderson
 Fredric K. Cantor
 Ray Allen Carlsen
 Thomas Newell Chase
 Oliver Townsend Dann
 Arnold Joel Eisenfeld
 I. Bruce Elfenbein
 John W. Foreman
 Leroy A. Forstrom
 Stephen John Fricker
 Anthony V. Furano
 John N. German
 John T. Harrington
 Frank R. Hartman
 Patricia C. Hassakis
 J. Dale Howe
 Gary Jacobson
 Walter Watson Karney
 Glenn L. Kelly
 David E. Knoop
 John P. Lynch
 Carter L. Marshall
 Stanley E. Matyszewski
 David J. McConnell
 William A. Miller
 Malcolm S. Mitchell
 David D. Nicholas
 A. Richard Pschirrer
 David Seil
 James A E Spencer
 Nancy Ann Staley
 Larry Lee Stewart
 H. Oliver Stoutland
 Seth Thaler
 Sherwood Waldron, Jr.
 Stewart R. Wright

1963

Arthur Howard Ackerman
 Miguel R. Alonso
 V. Richard Back
 Charles W. Carl, Jr.
 Theodore J. Chu
 Gordon S. Cohen
 John E. Conte, Jr.
 James S. Dalsimer
 Dudley Seth Danoff
 Andrew Edin
 B. Allen Flaxman
 David H. Fram
 William T. Friedewald
 David H. Fulmer
 Alexander R. Gaudio
 Vincent F. Geremia, Jr.
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 Herbert Meltzer
 Robert E. Mueller
 Sheldon R. Pinnell
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 Lee Bland Talner
 Thomas W. Tillack

Peter V. Tishler
Lawrence Tremonti
Peter G. Weiner
Jerome Allen Winer
Alfred J. Wise

1964

William A. Alonso
Berton W. Ashman
Sidney M. Baker
Leland S. Berger
Philip Blume
Anthony J. Bravo
Robert M. Briggs
Thomas A. Cardella
Joseph F J Curi
Mary V. Digangi
Beverly Ann Dudek
Alfonso Esguerra
Norman C. Fost
Peter A. Gross
John F.B. Haney
Gene I. Higashi
Lawrence Horwitz
William E. Knight
Lewis Landsberg
Richard V. Lee
Thomas L. Lentz
David B. Leof
James S. Levine
Paul R. Lightfoot, Jr.
Richard Murray Linburg
Robert W. Lyons
William F. Matchett
Robert L. Mitchell
Alan H. Morris
James J. Murphy
Donald A. O'Kieffe
William B. Pratt
Jack S. Rice, Jr.
Stanley J. Rosenberg
Jonathan J. Russ
Norman Scher
Robert L. Shelton
Diane Shrier
Donald G. Skinner
A. Thomas Snoke
Lyall C. Stulp, II
Sigrid L. Tishler
Charles Vogel
Stephen Waltman
Oscar Wand

1965

Thomas T. Aoki
Susan A. Aoki
John H.M. Austin
Paul Balter
Victor J. Burner
Thomas B. Caldwell, III
Grant L. Christian
Robert M. Cohn
Gregory A. Culley
Michael J. Cummings
David S. Fedson
Robert I. Finkel
Frank J. Grady
Robert Andre Gryboski
James K. Gude
Reid R. Heffner, Jr.
David A. Hill
Carl E. Hunt
Virginia Burnham Johnson
Ronald J. Karpick
Mohandas M. Kini
Richard J. Kozera
David B. Leof
Sandra Chook Levine
Gail D. Manfredi

Walter W. Noll
A. Lawrence Ossias
John A. Parrish
Robert L. Pickens
Alan N. Rachleff
Gene A. Robinson
John F. Schilke
Margretta Ann Reed Seashore
John H. Seashore
Charles J. Semonsky
David M. Shames
David P. Simmons
Harlan Spitz
Alan William Stone
Robert G. Weiner
Bert Yuan-Shu Wong

1966

Benjamin F. Balme
John D. Baxter
Patricia Bazemore
Robert P. Bazemore
Frank C. Bell
Philip Bernstein
James Edward Brown
Eugene Patrick Cassidy
Joseph A. Donadio
Robert E. Dragon
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Joel Singer
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Joan T. Wayland
Arne S. Youngberg

1967

Daniel L. Arons
Arthur L. Beaudet
Daniel J. Booser
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Mary Williams Clark
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Marian C. Davidson
James Lucius Davis, III
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Dennis Grant Egnatz
Herbert W. Felsenfeld
Melvin Victor Goldblat
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Richard L. Heppner

Peter N. Herbert
George P. Herr
David L. Ingram
Mary Jurbala
J. Robert Kirkwood
Melvyn Korobkin
Anthony P. Lovell
Ralph G. Maurer
Stephen W. Miller
Joseph L. Morris
Jennifer Robinson Niebyl
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Jonathan L. Savell
Alfred Q. Scheuer
Stephen C. Schimpff
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Joseph F. Walter
Martin Wand
Redford B. Williams, Jr.
Robert J. Winer
Robert S. K. Young
Ihor George Zachary
Peter M. Zeman

1968

Philip L. Barry
Grace Jordison Boxer
Donald R. Coustan
John Demarchi
Edward M. Druy
Barbara Mayer Egbert
Alan G. Finesilver
William F. Flynn
Richard A. Getnick
Mark Gilbert Grand
Leonard Grauer
Ralph S. Greco
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Elizabeth M. Short
Howard W. Siegel
David A. Soskis
Gerald L. Springer
Lee H. Strohl
Edmund C. Tortolani, Jr.
Per Henrik Wickstrom

1969

Charles S. Angell
David G. Ansel
David W. Barry
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David A. Berkowitz
N. Roger Cooke
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Richard J. Daly
Charles A. Dinarello
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Anna S. Gail
Royal J. Gay
Sander G. Genser
Robert O. Gordon
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Lee M. Jampol
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Rowena Korobkin
Stephen Krant
Lynn G. Lagerquist, Jr.
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Thomas F. Minehan
Bruce K. Nagle
Lionel M. Nelson
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Dennis J. Rudzinski
David J. Sahn
Adrian M. Schnall
David J. Schulak
Gerald J. Smallberg
Michael S. Toren
Robert J. Walat
Stephen R. Webb
Steven C. White

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Elissa B. Arons
William Romney Burke
Henry Chessin
Michael J. Chusid
C. Norman Coleman
James E. De Lano, Jr.
Margaret W. DeLano
W. Montague Downs
Jonathan Ecker
Robert Alan Epstein
Bruce A. Fabric
Thomas H. Gouge
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Jay H. Hoofnagle
Robert E. Humphreys
Jonathan D. Katz
Gerard T. Kennealey
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Robert B. Litman
Anne W. Lucky
Roger A. Mason
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W. Scott Peterson

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Richard Jay Solomon
Richard A. St. Onge
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Ray W. Tripp, III
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C. Bruce Wenger
Joellen Weme
Daniel Wuensch
Karl O. Wustrack

1971

Judith L. Bader
Gregory W. Bartha
Michael J. Beierle
Laurie J. Bleicher
Marian H. Block
Bruce Block
Willard Cates, Jr.
John L. Cieply
Frederick L. Cohn
Andrew D. Cook
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Richard Albert Moggio
Robert Park
John A. Patti
Barry Bruce Perlman
Stuart B. Phillips
Michael C. Piercey
Anthony V. Proto
Barry S. Rand
David M. Rinzler
James P. Southwick
Jonathan W. Stewart
Richard D. Travers
Yvonne E. Vaucher
Robert B. Vranian
Albert Carl Weihl

1972

Robert D. Arbeit
R. Michael Buckley, Jr.
Michael A. Catalano
Alan J. Clark
Philip L. Cohen
Leonard H. Cohen
Gloria Cummings*
Robert F. Deblasi
Norman M. Dinerman
William H. Druckemiller, Jr.
William F. Duke
M. Felix Freshwater
John P. Fulkerson
Robert B. Geehr
Dorothy M. Gohdes
Andrew E. Hoover
Thomas L. Horn
Vernon H. Humbert, Jr.
Fred Hyde

* deceased

Anthony H. Jackson
Jesse B. Jupiter
Frank M. Kahr
Roy A. Kaplan
Donald L. Kent
David L. Kneapler
Philip W. Lebowitz
Theodore M. Levin
Stephen A. Liebhaber
Paul A. Lucky
Harry L. Malech
Jeffrey S. Menkes
Jerome H. Meyer
Jorge A. Motta
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Edward J. Olinger
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Louis Reik, Jr.
William L. Risser
Richard S. Robbins
David H. Romond
Philip M. Rothfeld
Charles F. Scholhamer, Jr.
John S. Smolowe
Frederick D. Stockwell
Lawrence P. Temkin
Philip J. Weyman
Michael W. Yogman
Steven M. Zeldis

1973

David A. Adler
Marvin M. Chassin
Joseph M. Connors
David L. Coulter
Christopher M. Doran
Jane H. Ferguson
Richard J. Fingerroth
Robert A. Florin
Lee Goldman
Gary V. Gordon
Gary T. Grimes
Neal Handel
Wanda D. Huff
David C. Johnson
Andrew G. Kadar
Michael S. Kramer
Harold R. Mancusi-Ungaro, Jr.
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David Pickar
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Harry S. Romanowitz
Jerrold F. Rosenbaum
Joseph F. Simeone
Robert A. Sirota
John R. Stratton
James F. Sullivan
Thomas F. Sweeney
Robert J. Ursano
Christine A. Walsh
Richard S.K. Young

1974

Stephen B. Arnold
Irving M. Asher
Leonard I. Banco
Douglas A. Berv
Neil Blumberg
Peter J. Buchin
Bert D. Collier, Jr.
Paul David
Vincent A. Di Maria

Irl L. Extein
Reginald K. Franklin
Allan B. Friedland
Michael A. Gerber
Harvey Gerhard
David Grant
Robert F. Hempton
Ancil A. Jones
Robert M. Kolodner
Leon F. Kraft
Saul Lande
Olusegun O. Lawoyin
Richard C. Pasternak
Andrew L. Ries
David Z. Ritvo
Amy S. Schechter
Robert J. Schechter
James A. Strom
George H. Talbot
Carol C. Teitz
John Jones Thompson

1975

Ralph E. Binder
William S. Bush
Chau V. Dang
Stanley W. Gale
James P. Grabman
Carol L. Kandall
Kevin Kane
Richard J. Loewenstein
Bruce B. McLucas
Hyman J. Milstein
Mary Jane Minkin
Edwin G. Olson
George J. Pardos
Daniel J. Passeri
Vivian Reznik
Philip J. Rich
Salvatore V. Romano, Jr.
Fred P. Rosenfelt
Richard L. Roth
Robert S. Sandler
Steven A. Schwartz
Barbara J. Stoll
Henry S. Willner
Douglas R. Zusman

1976

Sarah S. Auchincloss
Peter B. Bitterman
Sharon L. Bonney
Roger A. Boshes
Randall D. Cebul
Helen Y. Y. Chang
Pauline Y. Chao
John D. Clemens
Geoffrey Etherington
Ira H. Gewolb
Rose Hannah Goldman
Glenn A. Gorlitsky
Joel Kabak
Norman V. Kohn
William J. Lederer
William K. Levy
Paul R. Ramirez
Mark C. Ruchman
Lawrence E. Samelson
Bonita F. Stanton
Charles R. Swenson
Jacob E. Tauber
Robert F. Taylor
Peter M. Ting
John C. Wiles
Jerome B. Zeldis

1977

Michael G. Adelberg
John J. Boronow

Richard D. Bucholz
Stuart Brian Dubin
James A. Fox
Julia B. Frank
Robert W. Hand
Jeffrey Neal Hausfeld
Bruce L. Innis
Karen G. Kelly
Howard K. Koh
David J. Kreis, Jr.
Margaret S. McKenna
Robert J. Mitchell
Alan S. Penziner
Theodore M. Pitts
Steven J. Scheinman
Ricky M. Schneider
Susan Bromberg Schneider
Simeon A. Schwartz
Mark S. Smith
Gail M. Sullivan
Phyllis A. Taufield
Ronald J. Vender
Steven L. Wersof
John E. Whitcomb
J. Douglas White
Daniel Wohlgelemer

1978

Michael J. Anderson
Richard J. Baron
Joann N. Bodurtha
Booker T. Bush, Jr.
Duke E. Cameron
Howard M. Chase
Eugene Glenn Fong
Stuart M. Forman
Arthur M. Gershkoff
Linda J. Hall
Robert Hershfield
Robert L. Kraft
Michael R. Lerner
Kenneth L. Marek
Jose Luis Martinez
Seth M. Powsner
Donald C. Simonson
Thomas Joseph Smith
Rafael J. Tavares
Caroline R. Taylor
Marcia J. Wade
Sharon R. Weinstein
David L. Wessel
Susan Wong

1979

Nancy Berliner
David A. Brenner
J. Kenneth Burkus
Stuart L. Bursten
Isabel Cunninghamham
John A. Fox
Joel I. Franck
Lloyd Friedman
John Jay Gargus, PhD
David E. Golan
Bruce Halperin
Edward C. Halperin
Marc Hellerstein
Jeffrey L. Kaine
Michael K. Lindsay
Shirley McCarthy
Thomas R. Moore
David E. Ness
Barbara Ann Peters
Jean Rosenthal
Lynn K. Rudich
Gary L. Schaer
Eric A. Schwartz
Cynthia Anne Sherman
Alfred Windsor Sloan

Pamela E. Smith
Thomas Trumble
John T. Woo
Jeffrey Work

1980

David E. Adelberg
Eduardo Alfonso
Seth Leo Alper
Frederick R. Aronson
David Allen August
Jay M. Baraban
Patricia Church Brown
Michael W. Champeau
Michael M. Chang
Thomas F. Deering
Jeffrey Neil Dornbusch
Forrest John Doud
Todd J. Garvin
Marc F. Glickstein
David Jay Goldberg
Nancy S. Goldman
Maria White Greenwald
Gary I. Greenwald
Barry M. Kacinski
Theodore W. Marcy
Cesar R. Molina
Steven Ira Rosenfeld
Jane G. Schweitzer
Leslie W. Sojka
Marcia R. Taylor

1981

Cynthia B. Aten
Louann Brizendine
Sherri L. Brown
Stephen Wilson Burgos
Patricia A. Burke
Christine M. Duranceau, PhD
Paula M. Fracasso
Judy E. Garber
Robert S. Goldman
Laurie J. Gordon
Scott A. Hundahl
Elliot Lach
Mary Romig McKinstry
Robert M. Milstein
Richard L. Mogerma
Robert B. Portney
Barbara A. Roach
Susan C. Schachner
Dovelet Shashoua
Martin H. Teicher

1982

David August
Sylvia R. Beck
Muriel Cyrus
Jed B. Gorlin
Jessica Herzstein
Daphne Hsu
Rise Maura Jampel
Henry Jampel
Patricia Kellner
Kathleen Anne Nolan
Joyce A. O'Shaughnessy
Dan B. Odenheimer
Carrie A. Redlich
Robert J. Rizzo
Lewis P. Rubin
William M. Sikov
Lynn T. Tanoue
Jeffrey Tepler
Albert L. Ungricht
David A. White
Stephanie Wolf-Rosenblum
Charles D. Wright

1983

John Taylor Adams*
Robert E. Bookstein
Elena Citkowitz
Dianne Edgar
David C. Helfgott
William Kadish
Ana Maria Lamas
Laurie Margolies
John H. Neal
Dan A. Oren
Augusta S. Roth
Moshe Rubin, M.D.
Daniel Paul Sabbeth
David E. Schwartz
Philip M. Spiro

1984

Charles S. Abrams
Martha Ray Arden
David I. Astrachan
John F. Babich
Leonard Bell
Barbara Ann Coda
Joseph G. DeSantis
Conrad Jeffrey Duncan
David A. Frank
Kim A. Gutner
Bruce G. Haffty
Jeffrey N. Katz
Michel Klot
Daniel M. Kolansky
Jay R. Kostman
Richard L. Leff
Lynn B. Mehlman
Steven A. Porcelli
William A. Rios
Paul B. Rothman
Mark Stein
Fong Wang
Charles M. Zacks

1985

Michael Behrman
Barry D. Bergquist
Stafford R. Broumand
Bryan DeSouza
Barbara Guillelte
Robert S.D. Higgins
Marie Hobart
Stuart Neal Isaacs
Michael A. Johnson
Susan Korrick
Shirley J. Lee
Ted W. Love
Anthony Marks
John Jerome Merendino
Elizabeth G. Moy
Jon Nakamoto
Robert D. Needlman
Leslye C. Pennypacker
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Ellen C. Rieur
Richard A. Ruiz
Greg A. Sachs
Fred Santoro
Joshua D. Schor
Louis J. Tesoro
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Gerard M. Doherty
Jay Gates
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Gary Hirshfield

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 Gregory J. Orloff
 D. Bradford Reich
 Gary L. Shapira
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 Abel A. Applebaum
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 Adel H. Ayoub
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 Girard A. Chapnick
 Richard Allen Chase
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 Leo J. Clark
 Lawrence S. Cohen
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 Sidney L. Cramer
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 Alan Dror
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 Frank H. Duffy
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 Israel Dvoretzky
 Marlene R. Eckstein
 Stephen A. Edelstein
 Lawrence B. Eisenberg
 Malcolm Mitchell Ellison
 Walter Ettinger
 Charles Farrow
 Daniel R. Feinstein
 Edward Webster Finner

Morris A. Flaum
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 Gary E. Friedlaender
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 V. Philip Glassman
 Leonard Gold
 Barry Goldberg
 Nelson H. Goldberg
 John W. Goldkrand
 Peter A. Goodhue
 Isaac Goodrich
 Richard Reed Gramse
 Willard F. Greenwald
 Gordon W. Grundy
 Joseph Guaraldo
 Hedda Ann Litowitz Haning
 Donald H. Harter
 Mary M. Herman
 Stanley Hersh
 A. Douglas Heymann
 Judith Hochstadt
 Clifford L. Hoyle
 David Smith Hubbell
 Eric A. Hyson
 Henry G. Jarecki
 Rollin M. Johnson
 Robert M. Johnston
 Clifford Joseph
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 Jill P. Karpel
 Lee D. Katz
 Bernard L. Kaye
 David J. Keller
 David M. Kessner
 Stephen King
 Samuel C. Klagsbrun
 Lawrence E. Klein
 E. Larry Knight
 Richard Knobelmann
 Thomas J. Koontz
 Eugene Kuchner
 Joel C. Labow
 Randi Leavitt
 Samuel M. Lerner
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 Stephen Mariani
 Joan L. Martinez
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 Pamela M. McBogg
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 Seymour Cy Nash
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 Gwendolyn B. Nichols
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 Ranjit Rath
 Stephen Rawe
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 Fred M. Rosenbloom
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 Sheldon K. Schiff
 Lowell E. Schnipper
 Robert Schnurr
 Carl I. Scholzenberger
 Marianne Ida Schuelein
 Louis N. Scotti
 James Thomas Sehn
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 Howard Senter
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 Carlton C. Sexton
 Thomas E. Shaffer
 Daniel W. Shapiro
 Ezra A. Sharp
 Gary R. Siegel
 Joel Silidker
 Frederic N. Silverman
 Robert E. Silverman
 Paul I. Silverstein
 Earl J. Simburg
 Domenick Sisto
 Richard I. Staiman
 Sally K. Stansfield
 Don Starr
 John G. Stoeniw
 Sturla Stefansson
 Elsa L. Stone
 Fred Leslie Stricker
 Craig Summers
 Herbert Tabor
 Imad F. Tabry
 Troy L. Thompson, II
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 Martyn A. Vickers, Jr.
 Milton Virshup
 E. Maurice Wakeman
 Thomas A. Warthin
 James E. Watson
 Alan Weinberg
 Lionelle Wells
 Ssu I. Weng
 Herbert Allan Wenner
 George Wharton
 Robert R. White, 3d
 Robert J. Williamson
 Suna Woods
 Eiji Yanagisawa
 Michael Yaros
 Robert C. Young
 Richard Walter Zimmerman
 Marvin Paul Zimmerman
 Lawrence H. Zingesser
 Louis Zinterhofer

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 Mr. Myles H. Adelman
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 Mr. Robert August
 Drs. John and Marie Babich
 Stuart M. Berkman
 Malcolm Brochin
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 Harriet Farnsworth Brown*
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 Jacques Hussussian
 Dr. & Mrs. Robert Karol
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 Mrs. Juanita Kessler
 Kenneth P. Kinney
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 Mr. Earl M. McChesney
 Harry Meisels
 Myron Roy Melamed
 Mr. Arthur P. Miller
 Pedro Miro
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 Mr. Marshall D. Newton
 Dr. William G. O
 Jon Ogland
 Mr. & Mrs. Louis Parent
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 Mr. Morris Price
 Mr. Edward A. Quattrochi
 R. Donald Reich
 Mrs. Yolanda Rivero
 Mrs. Yolanda Rivero
 Mr. Joel G. Roth
 Dr. & Mrs. Carl E. Rothschild
 Harold & Frances Sampson

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 Arthur A. Shachner
 Mohan N. Shrestha
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 Mr. & Mrs. Philip Soskis
 Mr. Barry S. Spector
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 Kenneth Alan Stein
 Argyle Stoute
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 Mrs. Leo Teitz
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 Mrs. Albina K. Vazquez
 Mr. Harold Weinberg
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***Career Choice Versus Student Debt:
Tipping the Balance?***

YALE MEDICINE

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The cover features a 19th century balance scale from the Medical Library's Edward Clark Streeter Collection of Weights and Measures. Cover photo: Bill Carter

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TO BREAK THE CYCLE OF POVERTY

by Irving Harris

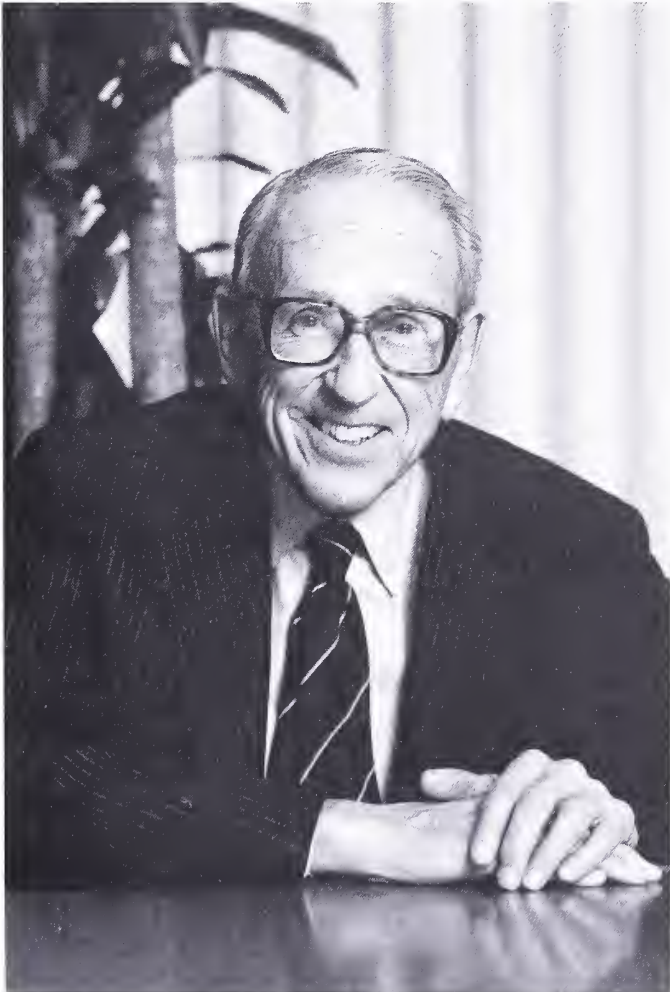
Editor's note: Many Yale medical alumni have had experience with one of this nation's most serious public health problems: a cycle of poverty in which teenagers bear children who—if they survive—grow up socially and economically disadvantaged. All too often these children bear the added burden of a physical or mental handicap that results from inadequate health care. And many go on to become the next generation of too-young parents as the cycle of poverty winds on.

Is there any hope of breaking this pattern, especially in an era of federal cutbacks?

One Yale College alumnus, Irving Harris, '31, a Chicago businessman, felt that there must be an alternative to simply turning our backs on the problem. He got involved in his community and achieved remarkable results.

Last year, Mr. Harris was invited to chronicle his success in the annual Clifford Beers Lecture at the Yale Child Study Center. YALE MEDICINE presents an excerpt from this lecture.

Irving Harris



BRUCE POWELL

As a businessman, I am frequently asked why I am concerned about child development and the cycle of poverty. My answer is simple: Because of the awesome effects of poverty on children and families, we cannot afford to go blithely about our lives thinking the problem will solve itself.

In 1975, my friend Bernice Weissbourd began talking to me about her idea for organizing a family support system in Evanston, Ill. In 1965 and 1966, Bernice and Joan Costello, formerly of Yale, had operated a Head Start program in one of the housing projects in the inner city of Chicago. When she looked back at that experience, Bernice told me that the project had been both exhilarating and disappointing.

She classified the children they worked with into three groups: A third were well-nurtured at home and would probably make it in life even without a Head Start program; the second third needed, and really benefitted from, Head Start, but required good teaching to stay on track; the final third were so badly damaged by the time they arrived in Head Start that they could not be helped.

THE CRITICAL THIRD

Bernice believed that the only way to address the problem of this last group was primary prevention—to work with the mothers of those children from the time the babies were born or even earlier—during the first months of pregnancy.

As a result, in 1976, Bernice Weissbourd created Family Focus, a non-profit social service organization whose clients are families with children under age three. The mission of the program is to help parents improve their knowledge of healthy child development and so enhance their parenting skills. Her husband and I shared the principal part of the cost.

Family Focus began with a very good drop-in center in Evanston, Ill., a community of 100,000 which ranges from affluent to poor, about 77 percent white and 23 percent black. We expected that 50 families would use the center in its first year. To our surprise, 250 mothers and their children piled in.

But we failed to attract the teenagers we had hoped would use the program. So four years later we opened a second center, located across from the high school. This did attract low-income youths, who named the center "Our Place." Here we counseled many teenagers, including those who were pregnant or parenting, and those who were not.

The center was very successful. The health of those who were young mothers was clearly improved. The number of low birth weight babies was low. (In Chicago's inner city, low birth weight affects 21 percent of all newborns; in our sample the percentage was six.) One of our goals was to encourage these young mothers to wait before having a second baby.

In most cases we were successful, but there was still room for improvement. In a study of multiple births four years later, much to our surprise we found that all of the second and third children born to these young mothers were progeny of only six families. Those families—siblings and cousins—represented the hard core of Evanston's social problems and proved to be the most difficult to reach through our program.



A mother and her six-month-old play games with a mirror at Christopher House, a Chicago Ounce of Prevention Fund site.

FUNDING STRATEGIES

We knew all along that the costs for Family Focus would not be cheap. We also knew that those costs would have to be justified on one of two bases: humanitarian considerations or cost effectiveness. If the concern was purely humanitarian, the cynics would be sure to say, "Don't look to us for money. Tap the bleeding hearts." To prove cost effectiveness, we would have to measure the damage—and determine the cost—of what happens when society does nothing.

This is not an easy process. My own estimate suggested that \$10,000 a year would not be a bad guess for what it costs if a child becomes a failure. Prison alone costs over \$20,000 a year. Retardation and other handicapping conditions, welfare, unemployability and teenage parenting are all expensive.

Experts have said that my estimate is low, and the figures bear them out. A study of the 24,348 births to Illinois teenagers in 1983 estimated annual costs at \$35,000 per birth during the first five years of the children's lives. That adds up to an annual cost of \$853 million.

Yet even at the conservative figure of \$10,000 a year, the average cost to society for a failed individual with a life expectancy of only 30 years would come to \$300,000. I have also estimated that at least 600,000 children are born each year at high risk of societal failure, and without intervention half will in fact fail. Again, my estimates are conservative.

Despite such grim figures, and the fact that our preventive approach costs \$1,000 per child, funding for Family Focus has been difficult to come by from the start. Early on, I thought our fund-raising prospects might improve if we appealed to the self-interest of corporations and could place a center near a factory site.

CLOSE TO HOME

A logical corporation to initiate such an experiment was the Pittway Corp. of which I was chairman. Pittway manufactures smoke detectors in Aurora, Ill., which has a large pocket of poor Hispanic families who work for the company.

Pittway supplied a substantial part of the funds needed to finance a Family Focus drop-in center in Aurora. This was to be a three-year experiment, with the intent of interesting other Aurora employers in joining as financial supporters.

We asked the Illinois department of children and family services for \$25,000 a year towards our estimated \$100,000 budget, believing that the Aurora center would be a model primary prevention program and could potentially reduce child abuse and neglect.

We were pleasantly surprised when department Director Greg Coler volunteered to commit \$400,000 if Pittway would match it. His goal was to establish six experimental sites that would test the concept of primary prevention. The Pittway board agreed to match the grant. Greg Coler invited me to think up a name for our public-private partnership, and that is how The Ounce of Prevention Fund was created.

Without question, the state could not have established a radical experiment such as Ounce of Prevention using state funds alone. The matching grant greatly reduced the difficulty of gaining legislative approval.

Greg Coler asked for a \$400,000 grant from Pittway for one year only. He promised that once underway, the project would be funded in its second and third years by the state. After all, it would take only \$800,000 a year from his department's \$260 million budget.

From the corporate side, despite the fact that this was by far the largest grant the Pittway Corp. Charitable Foundation had ever considered, our board believed it was worthwhile, particularly since that we were leveraging our \$400,000 against \$2 million from the state over three years.

Pittway directors recognized that the long-term success of the corporation is dependent upon the economic and social health of the community, not only in Aurora but in all of the communities where the company operates a factory or offers its products for sale. The board felt that the issues related to early childhood development are of concern to the nation as a whole and that Pittway's effort might have national significance.

AN IDEA TAKES HOLD

A public announcement of the new program was made in January 1982. We requested proposals, insisting on a strong community base. In the first year, with \$800,000, we funded six programs. In the second year, the state increased its contribution to \$2 million and in the third year to \$4.5 million. This enabled us to add 22 programs. And in the fourth year, with

modest additional funding, we added 13 small experimental prevention programs.

Ounce of Prevention sites usually offer home visiting, parent training, pregnancy prevention, support mechanisms to promote healthy family functioning and prevent child abuse and neglect, and in many instances, developmental infant and toddler day care. Ounce of Prevention also now manages 10 federally funded Head Start programs for some 700 children.

Pittway, incidentally, has continued its support at \$250,000 a year. This pot of flexible funding has been important to the growth and dynamism of Ounce of Prevention programs, which today include training for paraprofessionals in infant and toddler assessment, new programs to prevent sexual abuse, job training programs and other projects that collaborate with schools and churches to reach children put at risk by poverty.

Despite our success, there is much more to be done. For instance, it was always clear that The Ounce of Prevention Fund and Family Focus were not helping the most difficult-to-reach, highest-risk families—including the “hard core,” estimated at 6 percent of families who account for 50 to 70 percent of the social problems that we are trying to counter.

THE ELUSIVE PURSUIT

We also became aware that Family Focus and Ounce of Prevention were not achieving our goal of promoting primary prevention. We were working mostly with adolescent mothers who already were pregnant or had had a baby. At best, we were trying to improve parenting skills and encourage young people not to have a second or third child while they were still of school age.

Realizing that primary prevention meant trying to keep children from having their own first child, I hired a man named Bill Young to scout around the nation and see what was being done to successfully prevent first births.

Regular home visits are key to the Ounce of Prevention Fund approach to supporting young parents.



OUNCE OF PREVENTION FUND

He discovered that the Comprehensive School-Based Medical Clinic in St. Paul, which offered medical care and family planning services, had managed to cut births to teenagers in one high-risk high school by 59 percent. While nationally, some 33 percent of adolescents have a second baby within two years after delivering their first child, St. Paul had been able to reduce this percentage to 1.4.

With this information I returned to the state director of public aid. He agreed to fund one-half the cost of two such clinics if I could find private funding for the other half.

To match the state's funding, we would have to raise \$1 million. This would provide \$1 million for each clinic, to be spent over eight years. The Pittway Corporation Charitable Foundation agreed to give \$75,000 a year for several years; and The Robert Wood Johnson Foundation agreed to provide additional funds. Since then, 10 more Chicago foundations, including the Chicago Community Trust, have joined the effort.

THE STRUGGLE CONTINUES

Surprising as it may seem, not everyone in the community has welcomed our efforts. Take, for example, the Moral Majority.

Thanks to the efforts of Bill Young and Ruth Belzer, executive director of the Harris Foundation, the city administration and the Chicago board of education agreed to permit comprehensive clinics to be established at two Chicago high schools, DuSable and Orr. The vote of the board was 10 to one and reported in *The Chicago Sun-Times* and *The Chicago Tribune*, both of which noted that contraceptives would be dispensed to students.

It should be mentioned that to use any of the clinics' services, including birth-control counseling, students need written permission from their parents. Three months after the first clinic opened, a black minister, the head of the Illinois Moral Majority, wrote a letter of complaint to the governor and sent copies to 50 well-placed individuals, including the editor of the *Sun-Times*.

The story ran under a banner headline: “The Pill Goes to School.” The fact that 85 percent of the visits were for medical problems was not newsworthy. Only sex is news.

Interestingly, all of the excitement generated by the newspaper, the pickets and the television cameras was of little concern to the families of DuSable students. Not a single call from a parent was received by the principal. The parents, the principal and the faculty wanted the clinic there.

Nevertheless, the picketers did convince the president of the school board and two other board members to waver on their votes. We found ourselves in a new battle for approval of the second clinic, despite the approval granted six months earlier.

We won that critical second vote six to five, but on the condition that before opening the second clinic at Orr High School, we were to survey the community and the students. We found that 85 percent of those responding favored opening a clinic that would dispense contraceptives.

Since that episode, the state of Illinois has appropriated funds to fully support two more clinics.

Our experience with these programs has led me to believe that by working together, perhaps we can use our education and insights to understand the causes of social failure and weed them out. Human motivation and social organization should not be insoluble mysteries. Nor should it be beyond our talents to eradicate the conditions that create a permanent underclass.

Poverty is not preordained in heaven. It is a problem created by people. If we really want to, we can solve it.

AT THE INFINITESIMAL FRONTIER OF PHYSIOLOGY

by Doris Falk and Gregory R. Huth

When the "department of physiology" became the "department of cellular and molecular physiology" in July 1987, the name change formally affirmed the path the department has been following for a decade, a path that has led it to become one of the top graduate physiology departments in the country.

"There was some concern when we first asked for the name change that we were departing from our educational mission," observes Professor Emile L. Boulpaep, M.D., chairman of the department since 1979. "But our mission has not changed. We are simply adjusting the name to reflect our research activities." Professor Walter F. Boron, M.D., Ph.D., acknowledges that those activities play a vital role—as reflected by the department's annual research budget of \$4.5 million.

However, as the department's director of medical studies, Dr. Boron is quick to add that research and educational efforts must complement each other. "We take our teaching responsibilities very seriously," he concludes.

Historically, physiology has dealt with the function of systems and organs. This has remained the thrust of two major courses given by the department: basic physiology, taken by first-year medical students, and clinical correlations, where second-year students learn to apply basic physiology to patient care.

Advanced graduate courses, however, which are elected by medical and graduate students as well as by M.D., Ph.D. candidates, have come to reflect the sophisticated new techniques that have made it possible to study physiology at the cellular and even molecular levels.

With such techniques gaining importance, adding the words 'cellular and molecular' to the physiology department's name reflects its position at the cutting edge of research. Thus, Dr. Boulpaep points out, the name change "should be useful in attracting new grants as well as the best young faculty and graduate students."

A SINGULAR FOCUS

Dr. Boulpaep believes that his department also has been strengthened by recruiting researchers who specialize in cellular functions related to membranes. While several faculty members carry on important studies at the supracellular level—into the organization of many cells—others specialize in the surface of single cells, and in some cases even the individual molecules of the cell membrane.

This contrasts with many physiology faculties that include a wide range of researchers who each specialize in a different organ or system, and thus who may have little or no common research interests.

"There's truth to the old adage 'Two heads are better than one,' Dr. Boulpaep suggests. "In our case, we have been fortunate enough to add depth to an already strong faculty by

bringing together many of the brightest researchers in the field of membrane physiology."

At first glance, such a research focus might appear to be limiting. However, Dr. Boulpaep explains that in fact, membrane physiology is so basic that its study has applications to an extremely wide range of organs and systems.

For example, departmental projects are throwing light on the mysteries of membrane transport in red blood cells, epithelial cells of the digestive tract, cardiac and skeletal-muscle cells and neurons. Such research is helping to explain the workings of such varied mechanisms as muscle contraction, color vision processing and electrolyte transport in the kidneys.

From a teaching standpoint, Dr. Boulpaep explains that medical students in advanced courses gain from this approach in three ways:

First, it allows students to learn about organ and system function in the most up-to-date fashion.

Second, it orients them to an approach that is becoming increasingly important in other aspects of medicine. Dr. Boulpaep observes, "If students go into internal medicine, for



JAMES ANDERSON

Dr. Emile Boulpaep, a native of Belgium, adds a dash of Flemish flair as chairman of the department.

example, they will discover the same trend to a cellular and molecular focus at the research level in the study of abnormal function.”

Finally, students who undertake a senior thesis in cell and membrane transport will find that they gain knowledge that will make them highly marketable—and all the more so for having some of the leading researchers in the field as their advisors.

The department’s 15 full-time faculty members divide their medical school teaching responsibilities between large lecture classes of 100 or more students and seminars where 10 to 12 students can study specialized research in depth. A minority confine their attention solely to the department’s 15 graduate students.

PURSUING THE INFINITESIMAL

What are Yale medical students learning about the microscopic and even submicroscopic workings of cell membranes?

In simple terms, Dr. Boulpaep explains that scientists have come to view cell membranes as a two-molecule deep “ocean of lipid, in which are floating many proteins.” These proteins can be divided into four basic groups—channels, transporters, pumps and receptors—according to the way they move materials in and out of the cell, thus regulating the intracellular environment.

Dr. Boulpaep and several of his departmental colleagues specialize in channels, the molecules that regulate ionic flux through the surface of the cell. In this system, channel proteins can be seen as the “locks” that respond to electric signals in the cell membrane. Channels cause an opening in the membrane, allowing calcium, sodium, potassium or other kinds of ions through, or they close the cell surface and stop all such movement.

Channels have gained much prominence during the past few years because of the effectiveness of calcium channel-blocking drugs in treating cardiac arrhythmias. Yet, as with so many modern medications, it was discovered *that* calcium-channel blockers were safe and effective before it was discovered *why*.

Professor Richard W. Tsien, Ph.D., is leading a group that is trying to understand how these drugs work. “By understanding how calcium channels function at the molecular level, we hope to throw some light on how calcium affects heart muscle contraction,” he explains.

The human heart is not Professor Tsien’s only research interest. In 1986 the National Institute of Neurological and Communicative Disorders granted him a Javits Award that assures the university seven years of support for the Tsien team’s research into the role of calcium channels in neuronal function. This endeavor may have implications for the treatment of epilepsy and other disorders of the nervous system.

Dr. Boron and others are investigating the second major category of cell membrane proteins: transporters. Transporters act as “barges” in the cell membrane’s lipid ocean, binding to ions or solutes, and then translocating these substances into or out of the cell. These proteins are essential for regulating intracellular ion composition, including the concentration of hydrogen. Dr. Boron’s lectures include discussion of a technique he helped pioneer that uses hydrogen-sensitive microelectrodes and minute amounts of dyes to monitor rapid pH changes in single nerve, muscle and renal-tubule cells.

One of Dr. Boron’s colleagues, Professor Peter S. Aronson, M.D., takes a different, but no less innovative tack to investigate how transporters function. He employs radio-labeled



JAMES ANDERSON

Technicians pursue their vital work—producing much of the highly specialized equipment required by researchers—in the obscurity of the instrument shop. Widely respected, these craftsmen have filled requests for custom designed equipment from places as far away as East Germany and China. Here Brian Cullen, an electrical technician, looks on as Senior Electrical Technician Jo Wonowski tests a circuit board.



JAMES ANDERSON

Henry Paulson, a fifth-year M.D., Ph.D. student, consults with Assistant Professor Toni Claudio, Ph.D., about the data from a patch clamping experiment.

tracers and fluorescent probes in various epithelial cells to observe the transport properties of cell membrane fragments.

AGAINST THE GRADIENT

Associate Professor Bliss Forbush III, Ph.D., works with others at looking into the third major category of membrane proteins: pumps. Pumps—enzymes such as sodium-potassium ATPase—come to the fore when a cell needs to move an ion into or out of its interior, but neither its “locks,” the channels, nor its “barges,” the transporters, can do the job.

For unlike these two proteins, which use an ion's own electrochemical gradient to move it passively, a pump actively transports an ion or solute against its gradient, analogous to a water pump working against the force of gravity.

Professor Forbush's research may one day help in the treatment of blood cell disorders, and gastrointestinal and kidney diseases. Other Yale research into pumps may reveal the possible tie between hypertension and the metabolism of sodium. It could also one day throw light on the workings of cardiac glycosides, medications whose effectiveness in preventing heart failure has remained a mystery since the physicians of ancient Greece began employing digitalis, the oldest and most famous of this drug group.

Receptors round out the major categories of cell membrane proteins. These proteins are able to “recognize” and bind to specific compounds in the blood, such as hormones and neurotransmitters. Receptors also serve as “home ports” for antibodies and drugs as they combat disease within the cell.

Because of receptors' relationship to the therapeutic action of many drugs, much research into these proteins, at Yale as well as other institutions, takes place under the aegis of pharmacology. Nevertheless, the key role of receptors in membrane physiology has led the department to consider if some receptor researchers might not be logical additions to the physiology faculty.

A COMMON DENOMINATOR

The wide application of the research undertaken at the department of cellular and molecular physiology is reflected in the diverse sources from which the department receives outside funds.

The National Institutes of Health sponsors the largest proportion of research. A majority of NIH institutes, ranging from “Heart, Lung and Blood” to “Cancer,” support departmental studies. Other grants come from such organizations as the American Heart Association, the Kidney Foundation and the National Multiple Sclerosis Society. The department does not engage in any contract work.

Another sign of the research's extensive practical implications comes from the diverse makeup of the department's faculty. In addition to its 15 full-time primary appointments, 12 hold joint appointments in physiology and other departments, ranging from epidemiology and public health to human genetics, internal medicine and pharmacology.

In fact, as the applications of cellular and molecular research become more and more basic, they increasingly blur

Hold the Arm & Hammer, Please

To an uninformed observer, using government money to test the palates of lowly sea slugs might leave a scientific investigator open to a congressional Golden Fleece Award. But in fact, the research of Professor Lawrence B. Cohen, Ph.D., whose funding comes from the National Institute of Neurological and Communicable Diseases and Stroke, illustrates some of the important work being done at the supracellular level within the department of cellular and molecular physiology. Professor Cohen points out that the brains of even primitive animals, such as sea slugs, are difficult to study because the millions of neurons in their brains are constantly active, while conventional techniques allow for only a few of these cells to be monitored at a time.

However, Professor Cohen and his group have developed optical methods for studying more than 100 sea slug neurons simultaneously. First, the scientists apply dye or fluorescent material to certain brain cell membranes of the animals. Then the researchers record by means of computerized photodetectors the changes that occur when the sea slugs learn a simple task, such as which of two paths lead to food not flavored with bicarbonate, a substance which the creatures find unpalatable. Such methods may one day lead to more effective methods to study the brains of higher animals, including humans.

Professor Charles R. Michael, Ph.D., is investigating individual nerve cells in much higher animals, Old World monkeys. In research funded by the National Eye Institute, Professor Michael has surgically implanted electrodes in the cortex of the primates in an effort to discover which cells are responsible for color vision and what role each individual cell might play in this type of perception.

JAMES ANDERSON



Professor Lawrence Cohen pauses during a brain storming session.

the distinction between medical disciplines. As this trend continues, departments are finding it advantageous to combine their strengths and apply jointly for grant funding.

During the past few years, for example, the department has received program project grants to investigate transporters and pumps in conjunction with the departments of human genetics, medicine and pathology. And last year, the department earned five-year funding to work with the department of pharmacology in studying channels.

This overlap of disciplines has encouraged interdepartmental cooperation in other areas as well. Notes Dr. Boulpaep,

"The more basic our research gets, the more we use the same instruments as other medical areas. This has led cellular and molecular physiology to share tissue culture and electron microscopy labs with the departments of pathology and medicine."

What sort of future does Dr. Boulpaep predict for the his department?

"The trend toward more shared research between departments will continue. I also foresee increasing numbers of graduate students as the importance of our field—and our department's reputation for excellence—continue to grow."

Recording the Song of A Single Molecule

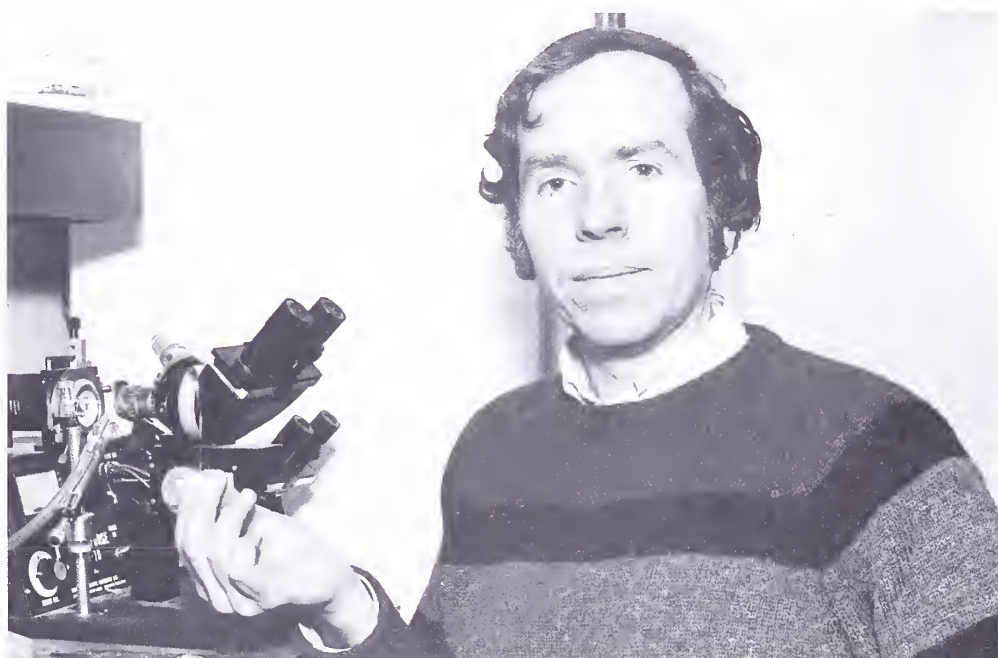
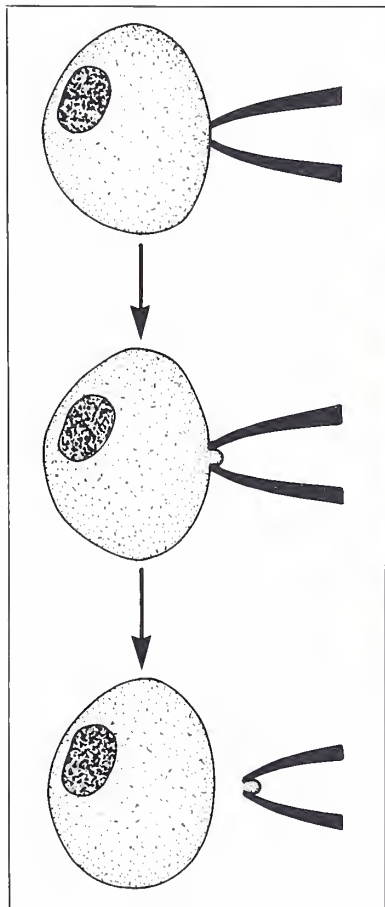
Investigation of cell structure and function has received a major boost in recent years by improvements in the technique known as "patch clamping." Frederick J. Sigworth, Ph.D. ('79), assistant professor of physiology, is one of the pioneers in this field. He explains how he can use patch clamping to measure the electrical changes that occur when a single channel protein molecule opens its "lock" of atomic dimensions.

The technique involves pressing against the cell wall a tiny glass pipette with an opening about half-a-micron wide. The tube is filled with a saline solution into which is placed a silver wire electrode that can measure the pico-ampere currents that flow in milliseconds through the cell surface.

The pipette's seal against the cell is so tight that a piece of the membrane—a patch—can be excised and placed in an experimental medium designed by the investigator. By monitoring the patch in its new, carefully controlled environment, the scientist can determine how even a single molecule reacts when exposed to various ions and electrical charges.

Among its many applications, patch clamping is being used to study the movement of water and ions across the epithelium of kidney tubules, neuromuscular transmission, and the mechanisms of the sense of smell.

Fred Sigworth, Ph.D., displays a pipette he uses in patch clamping, a technique that he helped develop.



JAMES ANDERSON

Diary of a patch clamp. (1) A pipette with a tip half-a-micron wide is placed against the membrane of a cell. The junction is sealed with a charge from an electrode inside the pipette. (2) As suction is applied, a section of the membrane is drawn into the pipette. (3) The pipette is pulled away, excising a patch of the membrane along with some of the cell's cytoplasm.

WHEN DOCTORS GET SICK

by Howard Spiro, M.D.

Doctors make poor patients, everyone knows. They usually keep quiet about being sick, either as practitioners afraid that patients want a doctor who can be counted on, or as academics worried that their colleagues discount the future of someone wounded. But then we do get sick, just like anyone else, even if no one knows because most of us tend to keep on working unless the complaints put us to bed.

Few physicians stay home with the flu and fewer of us are as careful of our own health as we tell our patients to be. Sometimes we think that we are less neurotic than they because the hypochondriasis of medical school and residency has purged us of acting on our fears and led us to conclude that we are almost immortal. Most doctors know about sickness from their patients, not from their own experiences.

Harvey Mandell, a clinical associate professor and medical director of the Backus Hospital, and I were discussing such matters one day after a lecture by Bob Byck in the Program for Humanities in Medicine recounting his own heart operation. Harvey and I have had lunch together on Fridays for over 30 years, and yet as old friends aging together we had never really talked about doctors who had been sick. It was all the more surprising because Harvey himself had had a melanoma many years before.

But Bob Byck's lecture gave us an idea. Recalling a book by Pinner and Miller, *When Doctors are Patients*, a collection of essays which had appeared in the 1950s, it seemed like the opportune time to put together a new collection.

THE SILENT PHYSICIAN

Indeed, the fruit of our efforts, *When Doctors Get Sick*, (Plenum 1987), has just appeared—and the job proved far harder than we had anticipated. Only a few doctors who have been patients have written about what they learned from the experience. Oliver Sacks comes first to mind because he has been the most prominent to do so recently. A small number of other physicians have described their travails in the pages of the *Lancet* and *British Medical Journal*, and even fewer have done so in our American journals.

These individuals are exceptions because we physicians are always doing something, not writing about it. Our lives are far less contemplative than they could be because of the demands for action we face—and love—everyday. We have been trained to measure and not to reflect, and our fast-paced lives leave very little time for introspection.

Though even Bob Byck was too busy—or too wary—to put his moving and humorous account down on paper for us, several other colleagues did agree to write about their own encounters with illness. Of these, Kenneth Barwick, Charles Kleinman, Hastings Wright, and Barry Zaret, along with the late Hugh Dwyer, are among the best known of our recent Yale faculty. A few physicians who had been residents or teachers years ago at Yale also contributed.

Many contributors have told me what a catharsis it was to reflect on their illness while writing their story. Reliving their

frustrations and anxieties gave those physicians a chance to reorder their experience, to reframe it with the tranquility that comes from knowing how it all came out. They found new meanings in retrospect that at the time of their frenzy they could not have seen.

But for many physicians the opportunity to tell the story of their illness was not an attractive one. For a few, those with emotional or drug problems, recounting their illness was just too painful. Though I cannot blame them, for some are very prominent individuals, we nevertheless could have learned so much from them about the contrasting worlds of doctor and patient.

A YOUTHFUL PERSPECTIVE

Some Yale medical students have already benefitted from *When Doctors Get Sick*. Last year a class of first-year students read some of these stories and their reactions were quite different from mine and some other physicians. "Heaven lies about us in our infancy," and first-year students have not yet been so acculturated into medical tradition that they see sickness with our blinders. They especially found fault with the implicit concern of the physicians' doctors with the disease rather than the patient, a fault that I was too "trained" to recognize.

Still, the students' emotional reaction offers me hope that when physicians read these stories, they will not only reflect about them in the quiet of the evening, but also discuss and criticize them.

Larry Cohen, the eminent cardiologist, tells me that he read one chapter of our book every morning while bicycling. (I was relieved to learn that Larry uses a stationary bicycle.) I like to think that when he read the story of Bob Seaver, a former Yale GI fellow who had to give up his practice in his 40s because of angina, Larry learned something new about the anxiety and frustrations of his own patients.

PHYSICIAN HEAL THYSELF

It is of course a paradox to be a patient and a doctor at the same time. As a doctor-patient you know a lot—or think you do—and your doctor gives you credit for knowing even more. For that reason the doctor-patient gets treated differently from most other people, sometimes better and sometimes worse, but rarely the same.

Doctors generally deny their symptoms as long as they can and look for help only when the tension grows too great. They usually prefer to settle for a corridor consultation along the lines of, "What would you do about this little pain I've got?"

Once physicians do reluctantly turn themselves over to be "worked up," they must then deal with conflicting impulses that result from their paradoxical patient-doctor role. Try as they might to be a good patient, someone who never complains, some physician-patients cannot overcome the urge to remain in charge.



Dr. Spiro

This is certainly understandable, for every physician knows what mishaps may—and do—happen in a hospital or in an office. So most doctors remain vigilant throughout their own treatment: Even as they're being watched, they are watching others. Our book tells of doctors who became monitors of IV drips to the extent of keeping a flashlight in the bed table drawer to check on patency of lines in the middle of the night.

Others reacted to the doctor-patient paradox in a different way. These physicians wrote that they spent a lot of time looking for the "right" doctor, and once they found one, let the physician take over.

They wanted someone else to make decisions for them in their interest, and as I interpret it, did not want to spend a lot of time discussing what was to happen. In this regard, too, I have been impressed by how much many physician-patients want comfort and optimism, even at the expense of hard truth.

This implicit trust may occur partially because doctors know that their physicians will be loyal to them as members of the same profession. Nevertheless, the approach of these physicians to being a patient throws new light on the issue of patient autonomy—making the patient equal to the doctor in decision making—that has been so widely discussed over the last decade.

OUT OF SIGHT . . .

Another observation. I was struck by the complete reliance of many physician-patients on technology, on seeing their illness on "hard copy" as quickly as possible. And I was likewise impressed by the reaction of the attending physicians to finding a structural defect: Once a doctor can see something wrong, he or she has to do something about it.

One such doctor insisted that his patient, a reknowned radiologist, undergo angiography for extrasystoles which occurred only after strenuous tennis following a heavy meal

on a hot day. The radiologist subsequently was scheduled for immediate bypass surgery—to which he agreed only when he was promised that he would never have to undergo another angiogram.

His doctor's good-hearted insistence on seeing what was going on and, once he found a lesion, doing something about it, sounds familiar to me. Such stories make me wonder how much the increasing visual qualities of medicine make for actions that are correct and even appropriate, but on occasion possibly not required.

Since I know more about gallstones than hearts, I rest with the observation that the wonderful perspectives of ultrasonography and computed tomography uncover gallstones which many times deserve to rest in peace. Yet once physicians see gallstones—even if the patient has no complaints—the doctors are tempted to do more than just look at them. Lithotripsy anyone?

LESSONS IN ISOLATION

The physician's doctor must contend with his or her own set of problems, as well. For example, an immediate empathy, a merging of identity with the patient-physician does not always make it easy for the doctor to act as objectively as our credo tells us we should.

I think this is one of the reasons why that "No Visitor" sign appears on the door of the doctor-patient's room in the hospital. We say that it is to keep the patient from being bothered by visitors. But I suspect that the sign actually protects us while still vertical from having to confront our own vulnerability as reflected in our horizontal colleagues. Keeping this in mind, I hope that these stories will "open the door" to the sick physician, to give us the chance to see ourselves and our patients more as persons.

I wish I could state that the physicians in our book changed their character after living the role of patient for a while. Not many claimed that they became better people for the experience. Although a few boasted more tolerance, for some, the opposite reaction set in: "I was sick, I suffered and got better, and my patients can do the same."

How has putting this book together affected me? I do feel that I have learned something from every story. For instance, I have learned that you don't have to be a physician 24 hours a day, and that human problems don't always yield to medical solutions.

Reading the manuscripts in this book has also convinced me more than ever that medical education must aim at ensuring that physicians do not become simply scientists or technicians taking care of disease. Doctors must remain caregivers to fellow human beings.

But probably the most profound way in which I hope I have changed is the way I deal with sick colleagues and those who have recently recovered from illness. Now I try not to turn away when a physician who has been sick passes by. I have learned to overcome my embarrassment in asking how he or she is doing. And when I stop to talk, it turns out not to be as difficult as I had feared.

Coincidentally, my co-editor Harvey Mandell had a coronary artery bypass scheduled just about the time our book came out. Before our experience of working on this book, upon his return we might have first joked briefly about his illness and then gone on forever to easier topics. Instead we talked often and intimately about the whole affair.

Fortunately, he did very well and is back to having lunch, less lucullan than before, with me on Fridays.

CAREER CHOICE VERSUS STUDENT DEBT: TIPPING THE BALANCE?

by Gregory R. Huth

Throughout the early 1990s, the champagne corks will be popping for members of the Class of '81 who will be toasting the payoff of their medical school loans. They will have good cause to revel. Along with their diplomas, these graduates left Yale with an average debt of just over \$20,000.

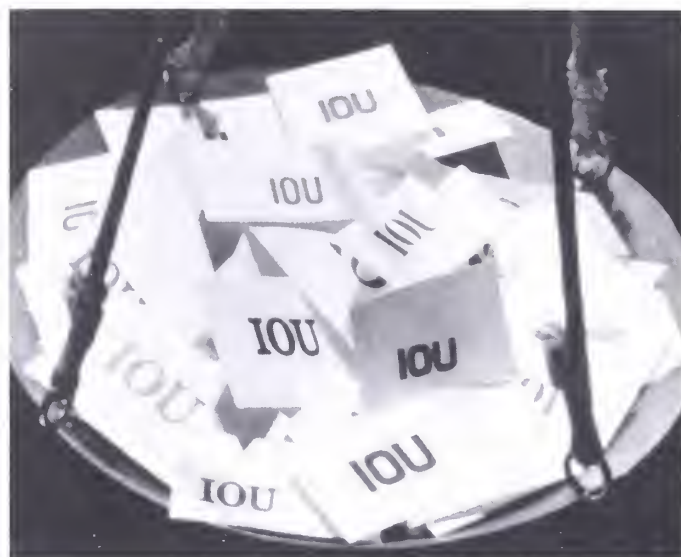
For the Class of '88, however, the mean debt (the pun applies) will have doubled—to over \$40,000—for the majority of students who borrowed to help finance their education. Dr. Robert H. Gifford, associate dean for education and student affairs, points out that 55 percent of 130 medical school seniors have borrowed to pay for their professional education, with individual debts ranging from \$3,000 to a whopping \$80,660.

In most cases, the more medical students owe, the more baffling the array of loans they face, and with more expensive terms. Even some federally insured loans feature rates that can reach 19 percent, with interest accruing from the moment a student signs on the dotted line.

A NATIONAL ISSUE

The problem is not Yale's alone. More than 80 percent of medical students nationally borrow to finance their professional education, and across the country tuitions are rising, especially at private institutions.

For example, the Association of American Medical Colleges (AAMC) reports that fees for a first-year student entering a private medical school in 1980 totalled \$7,910. By 1986 that figure had grown to \$15,023. Correspondingly, debt burdens for medical students, which averaged \$19,700 in 1981, have soared to



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\$35,600 today.

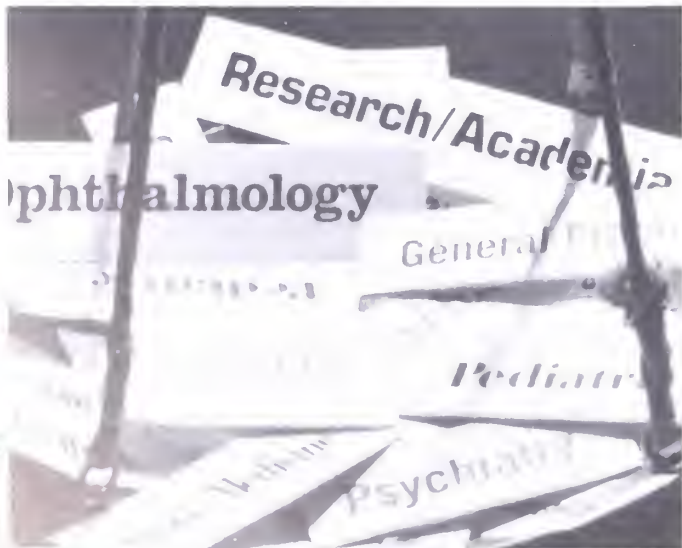
Moreover, there is no relief in sight from burgeoning debt burdens as rising costs are matched by federal policies that are making financial aid more expensive—and more difficult—to come by. Nationally, scholarships and grants to students are on the wane as well.

Escalating medical student debt harbors disturbing ramifications for the students, their schools and the nation's health care system. The AAMC, for instance, is conducting a study to discover if increasing debt burdens are encouraging students to pursue lucrative subspecialties, where there is a glut of practitioners, while driving students away from primary care and research, where there are mounting shortages.

Conversations with Yale students indicate that such a study is warranted. Confesses one second-year student: "I entered Yale assuming that I could do whatever I wanted with my medical education. I thought I might practice in a rural area, but now I feel that's not realistic. The pressure to pay off my loans is making me take a close look at surgery or some other well-paying specialty."

Another legacy of the debt dilemma may be the fourteen-year nationwide decline in the total number of applicants to medical schools and, according to a recent article in the *Journal of the American Medical Association*, a decreasing proportion of minority student applicants.

In coping with medical school debt, Yale has been able to maintain its competitive position among leading medical schools. Despite a 1987-88 tuition of \$13,770—which is more than double the figure of seven years ago—record contributions



to the Medical School Alumni Fund for fiscal years 1986 and 1987 have kept Yale medical students unencumbered by the loans with the most onerous terms. Furthermore, the proportions of minority applications and admissions to the school have not decreased, as has been the national trend.

Nevertheless, some Yale medical students have not been able to avoid higher interest loans. And school officials fear that this may develop into a trend as the economic and political pressures intensify which have led to higher indebtedness among medical students nationwide.

HISTORICAL TRENDS

For many schools, a major part of the problem dates back to the early 1970s. As the Vietnam war wound down, the nation began to focus more on domestic concerns. Among the federal government's top priorities: heading off a projected doctor shortage.

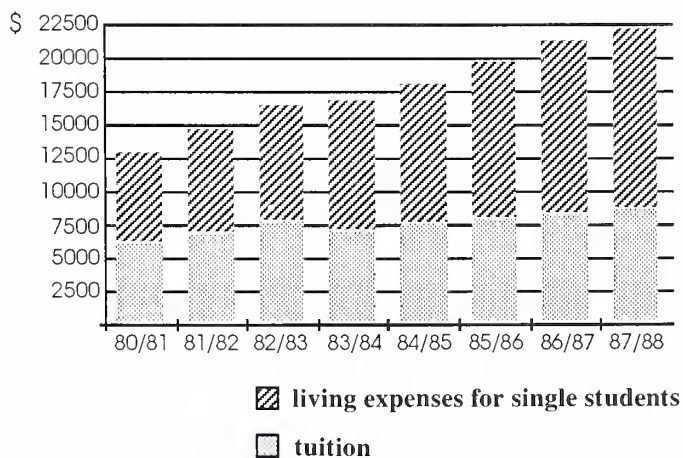
In response to this perceived threat, the U.S. Department of Health and Human Services worked with Congress to encourage medical schools to admit more students. This federal encouragement came in the form of a capitation system which allotted money for every student enrolled.

Financial aid to students also flowed. If a medical student wanted a low-interest federally insured loan, by and large it was there for the asking, regardless of financial need. Scholarships were not as pressing an issue because interest rates for loans ranged between 3 and 7 percent, and were relatively inexpensive to pay back.

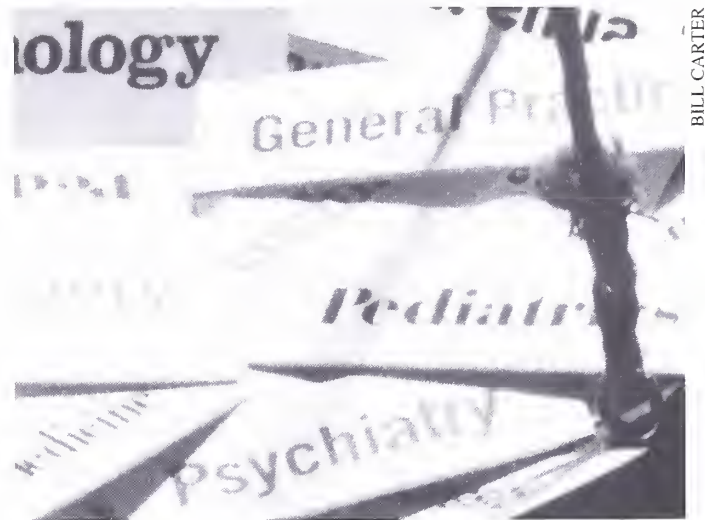
This flood of federal money had its intended effect—the national medical student population almost doubled, to 15,269, within 10 years. Faculties and facilities were expanded accordingly.

By the 1980s, however, the political climate had changed. Even as President Ronald Reagan and Congress blamed each other for a record-smashing federal deficit, the government began predicting a doctor glut for the 1990s. Inflation in health costs helped erode public support for the medical establishment, and student loan defaults became a major issue.

The deficit and the doctor glut helped the administration and Congress eliminate capitation payments in 1980, a source of assistance that was never replaced.



Tuition at the medical school has more than doubled—to \$13,770—between the years 1980–81 and 1987–88. Total living costs for a single student increased during this time from \$12,900 to \$22,490.



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The Reagan years also marked the end of the era when a majority of medical students could finance most of their education with loans under 8 percent. In fact, some students found themselves saddled with federally insured loans with variable rates that reached 19 percent.

The result of this mercurial national policy? Today, many schools of medicine find themselves with much expanded staff and facilities, yet faced with substantial cutbacks of the federal support that had nurtured this growth.

Yale's budget also was affected by the abrupt elimination of capitation payments, which totaled \$324,000 during 1980, the last full fiscal year they were provided. Fortunately, however, the capitation program had not induced the School of Medicine to increase its student population markedly—between 1970 and 1982, enrollment increased by only 10, to 102.

Though not faced with the consequences of overexpansion, Yale still has had contend with the rising costs that are part of operating a leading medical school. Most of these costs come under the categories of maintaining a top faculty and updating facilities and equipment to keep current with sophisticated medical technology.

Higher tuitions have been able to ease only a small part of the resulting financial squeeze. Tuitions pay for only between 6 and 8 percent of a student's medical education.

Thus, Yale and other medical schools, saddled with increasing costs, and their students, confronted with rising tuitions, are approaching the 1990s with a wary eye on their finances.

Director of Financial Aid Pamela Nyiri sums up how difficult the situation has gotten for the average Yale medical student. "Since I came to this job in 1980, the financial aid scenario has gotten worse every year. Tuitions keep going up, and the federal government keeps making loan money less available and more difficult to apply for, especially for middle-income families. Unless we can come up with creative alternatives to finance medical education, our population of students will consist only of the very rich and the very poor."

INTO THE LABYRINTH

To best understand how the debt dilemma affects Yale medical students, one should follow the process of how they apply and are considered for financial aid.

First, applicants must comply with a federal requirement that the financial need of students and their parents be documented. To assist in this "needs analysis," the financial aid office enlists the Graduate and Professional Financial Aid Service (GAPS-

FAS) one of several national firms that specializes in needs assessment.

GAPSFAS provides students with a comprehensive financial questionnaire that they and their parents fill out along with supporting documentation, such as federal and state income tax returns. A GAPSFAS form must be resubmitted by students and their families every year that financial help is requested.

Once a prospective freshman is accepted, the financial aid office uses the GAPSFAS information to implement a new method mandated by Congress to determine how much financial aid, if any, medical students should receive.

This involves a series of calculations that determines how much in loans and scholarships the student will be offered—

each applicant's needs are analyzed using one of 14 formulas. Yale offers the student the financial aid package that provides the most favorable terms.

Pamela Nyiri points out that Yale, Harvard and other leading private medical schools use a "unit loan" in their standard financial aid packages. For a student whose family agrees to provide the "family contribution," the unit loan is the maximum amount that the student should have to borrow to finance his or her education for the school year. Additional financial aid is provided in the form of scholarships.

For example, during the current academic year, the unit loan comes to \$12,500. If the financial aid office calculates that a student requires an additional \$8,500 to pay for annual ex-

Medical Student Loans— An Overview

Federally Insured Loans

Perkins Loans

RATE: 5 percent, deferred while in school

MAXIMUM: \$18,000, including undergraduate studies

TERMS: Must provide needs analysis. In addition to a one-year forbearance, deferment for as long as it takes to obtain a license. Deferments also for full-time students, or while in the Armed Forces, VISTA or Peace Corps. Ten years to pay, minimum \$50/month plus interest.

Guaranteed Student Loan

RATE: 8 percent, deferred while in school

MAXIMUM: \$54,750

TERMS: Same as Perkins

Health Profession Student Loan

RATE: 9 percent, deferred while in school

MAXIMUM: Tuition plus \$2,500

TERMS: Same as above, except for maximum four-year deferment without government service

Supplemental Loan For Students

RATE: Variable, $3\frac{3}{4}$ percent above U.S. Treasury bill rate

MAXIMUM: \$20,000

TERMS: Same as GSL, except interest accrues and capitalizes

Health Education Assistance Loan

while student is in school; no grace period for repayment.

RATE: Variable, $3\frac{3}{4}$ percent above treasury bill rate

MAXIMUM: \$80,000

TERMS: Same as Supplemental Loan for Students, except one-year grace period, and maximum four-year deferment without government service

Yale Revolving Loan Fund

RATE: 12 percent

MAXIMUM: Depends on funds available

TERMS: Same as Supplemental Loan for Students

NOTE: Rates are set to cover the costs of administration and losses through borrower death, disability and default.

SHARE or FERP, AAMC MEDLOAN

RATE: Market rate

MAXIMUM: Varies among programs, with a range of \$40,000 to \$120,000

TERMS: High service charges. Student must pass credit check. Except for MEDLOAN, student repays loan while still enrolled, with deferred loans available only at higher rates.

Uninsured Loans

penses, then this amount is provided in scholarships.

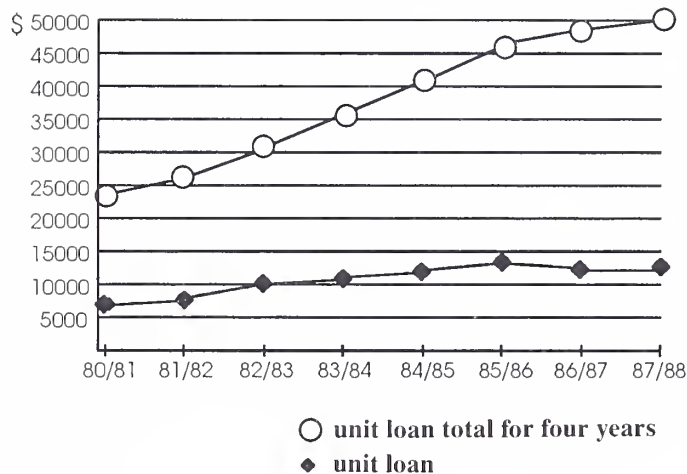
Notably, the amount of the unit loan depends on how much scholarship money there is available: The more scholarship money there is to go around, the lower the unit loan.

The financial aid package assumes a different look, however, when a student's family does not contribute what is required according to the needs analysis. To make up for the missing family contribution, the student must take out other loans, at higher interest rates than those the unit loan comprises. [See "Medical Student Loans—An Overview."]

The parental support provision is not a flawless criterion to insure that finite loan resources are distributed fairly. Though it does succeed in keeping the children of wealthy families from borrowing needlessly for their education, the provision also can cause some truly needy students to "fall through the cracks" and end up deeply in debt.

Many students in their 30s or even older—who have been living independently for years—do not feel it fair to prevail on their parents for support, especially if the parents are at or near retirement. In other cases parents refuse to support the student.

Such refusal is not always hostile or even voluntary. In many cases parents prove to be "assets-rich and cash-poor": Despite their "paper wealth," they have no money to contribute to their offspring's education. [See "A Tale of Two Students."]



The unit loan of \$12,500 for the 1987–88 academic year actually represents a decrease from the \$13,250 level reached during 1985–1986. Lower unit loans have been made possible because all gifts to the Yale Medical School Alumni Fund that are available for current use have been designated for scholarships.

A Tale of Two Students

Editor's note: In an attempt to distribute limited loan funds equitably, the federal government requires every medical student who applies for financial aid to undergo a needs analysis. While this approach does keep children from wealthy families from unnecessary borrowing, it also forces some truly needy students to accept higher interest loans.

A major shortcoming of needs analysis: The formula for calculating how much parents should contribute to their children's education fails to take into account how long a student has been financially independent. Neither does it make allowances for parents who may be "assets-rich and cash-poor," as illustrated by the following accounts of two second-year Yale medical students. (Names have been changed for the sake of privacy.)

John was a teenager when his parents divorced. He went to live with his mother, and his father stopped support when John turned 18. The young man was able to put himself through college by a combination of scholarships, loans and odd jobs.

After he entered medical school, however, John's needs analysis took into account his father's assets as well as his mother's. Indeed, the parental obligation to help pay for John's education also extended to his father's second wife, whom John barely knows.

The father's new wife owns a farm where the couple now lives. Because of this asset—though John's father brings home only \$22,000 a year—he and his second wife are supposed to contribute \$10,000 a year toward John's education. To make up for this sum—an obligation that John's father will never pay—

John takes out a government-insured loan at a 12 percent interest rate. John estimates that when he graduates from medical school, he will face an \$80,000 debt.

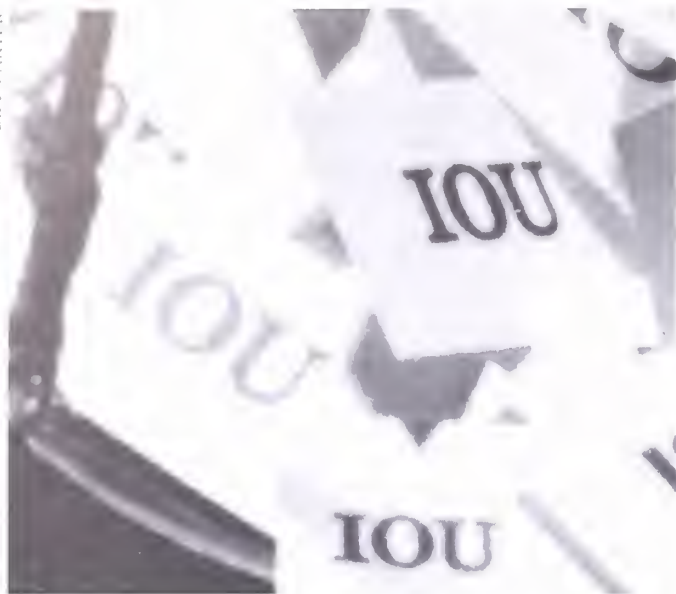
Andrea, who is in her mid-30s, finds herself facing another "catch-22." Her parents, elderly and retired, live on a fixed income of just over \$20,000. They have virtually no savings. Years ago, however, in the era before steep housing inflation, they had bought a small home in an affluent suburb.

Because of this asset, the needs analysis stipulates that Andrea's parents should be contributing \$17,000 per year to her education. In fact, they can provide nothing. This high parental obligation—impossible to meet without her parents selling their home—means that Andrea receives no scholarship aid.

During her first two years of medical school, Andrea has been spending her recess and vacation working overtime to minimize the amount of higher interest loans she will have to bear in lieu of the parental contribution. Thus far she has managed to keep her total loans down to \$30,000, although she knows that her third-year academic obligations will keep her from continuing any outside work.

As a result, upon graduation in 1990, Andrea expects to have accrued between \$70,000 to \$80,000 in debt. She wonders if this will keep her from pursuing her goal of working in academic medicine, where she hopes to be an advocate for the poor and underserved.

"A medical education, especially at Yale, is so rewarding," Andrea muses. "It's just a shame that I'm so often distracted, worrying about money."



STAYING COMPETITIVE

The shrinking number of medical school applicants nationally adds the dimension of interschool competition to the financial aid problem. Yale must compete not only with independent institutions but also with prestigious state schools that offer low tuitions.

Compare Yale's tuition of \$13,770 with the \$3,600 residents of Texas pay at the University of Texas at Houston. California residents can attend the University of California at San Francisco for an annual tuition of \$1,600.

Even in the face of such figures, though, many factors argue in favor of Yale. Among them:

- Prospective students know that they will receive the highest quality preparation in either clinical or research medicine.
- Many will be attracted by the Yale System, which offers flexibility in choosing courses and deemphasizes competition and testing.
- The school's reputation for excellence insures that Yale graduates have a broad range of career choices.

Soaring medical student debts could threaten this third advantage, however, especially for students who wish to pursue lower-paying careers in research or in practices among the underserved. Again, federal cutbacks have exacerbated the problem.

Observes Dr. Myron Genel, associate dean for government and community affairs, "The National Health Service Corps offers loan forgiveness of up to \$25,000 annually to new M.D.s who serve certain underserved populations. But this year only 40 to 50 doctors will be able to join the program because of an inadequate appropriation of \$2 million."

Dr. Genel adds that Armed Forces scholarships have survived with their offer of free tuition and a stipend for military service, but the program is more difficult than ever to enter because of great demand.

Even Yale's policy of admitting students without regard to financial need—another competitive advantage—faces the danger of being rendered moot. This will happen if many candidates from middle-income backgrounds decide against enrolling because of the debt burdens they and their families will have to bear.

Fortunately, the Yale medical school administration and the

alumni are working together to keep this from happening.

In 1986, Dean Leon E. Rosenberg began a policy of earmarking for scholarships all gifts to the Medical School Alumni Fund that are available for current use. Such alumni support is augmented by scholarship endowments and funds that the dean earmarks from his discretionary budget.

This academic year, the dean designated \$317,000 for scholarships, which was complemented by \$245,000 in endowment income and \$235,000 in alumni contributions. A significant increase in alumni giving from the previous year made it necessary to raise the unit loan only 2 percent—from \$12,250 to \$12,500.

Though not faced with the consequences of overexpansion, Yale still has had to contend with the rising costs that are a part of operating a leading medical school. Most of these costs come under the categories of maintaining a top faculty and updating facilities and equipment to keep current with sophisticated medical technology.

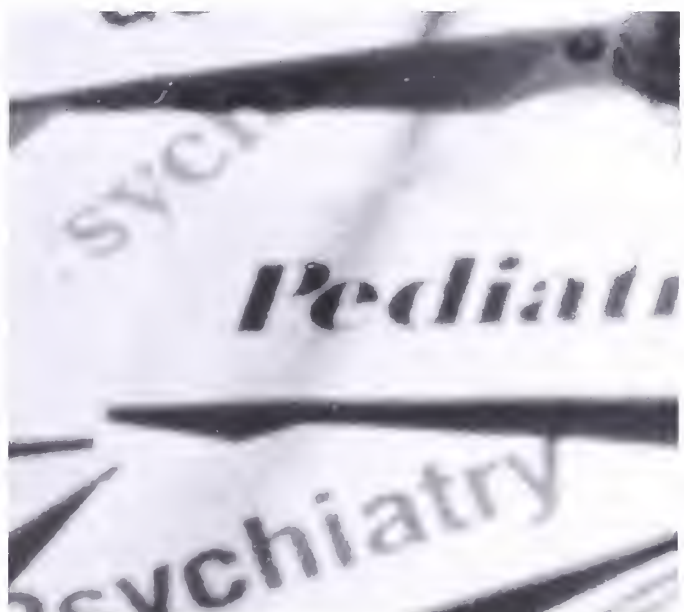
This, in turn, allowed financial aid director Nyiri to keep student loans—aside from those given in lieu of the family contribution—at or below a 9 percent interest rate. This development will have a profound, positive effect on the finances of scholarship students. Observes Ms. Nyiri, "Last year's generous outpouring of support from the alumni saved Yale medical students who are on financial aid thousands of dollars in interest payments."

She also points out that from a recruitment standpoint, this has helped Yale stay competitive. For instance, the debt burdens of 1987 Yale and University of Connecticut medical graduates were comparable, although the state school's tuition is about half, according to a recent New York Times article.

Dean Rosenberg underscores the importance of continued alumni support. "In this era of federal stringency and rising costs, we rely on the financial support of our alumni more than ever. Educating tomorrow's Yale physicians—this school's heirs—must always be a cooperative effort between Yale and its alumni."

At a recent executive committee meeting of the Association of Yale Alumni in Medicine, however, members expressed concern that donations for the current fiscal year were running \$200,000 behind last year's record pace.

"Should the alumni decrease their giving," the dean points out, "scholarships will decrease, and many Yale medical stu-



The Class of 1988

*A profile of those who borrow
to finance their medical education*

Estimated Mean Debt

Medicine	\$40,000
Physician Associate	23,000
Epidemiology and Public Health	25,600

Estimated Maximum Debt

Medicine	\$80,600
Physician Associate	30,100
Epidemiology and Public Health	40,100

The debts of physician associate and epidemiology and public health students tend not to be as high as those of medical students, who, on average, take more years to complete their degree. Nevertheless, indebtedness also affects PA and EPH students seriously, because they receive lower salaries than do most new doctors.

dents will literally be the poorer for it. We must get the word out to the alumni about the great degree to which our students benefit directly from their gifts.”

LOOKING TO THE FUTURE

Given the current economic and political climate, medical education administrators and their allies are trying to make the best out of a difficult situation.

One of the few promising developments is a loan administration program called MEDLOANS which was recently unveiled by the Association of American Medical Colleges. Among other features, the program offers a simplified application process for applying for government loans.

MEDLOANS also makes higher interest non-government loans somewhat less expensive by requiring no payments while the recipient is in school or in the early part of the residency period. The program also offers a graduated payment plan so that physicians can make lower payments during the first, less lucrative years of practice.

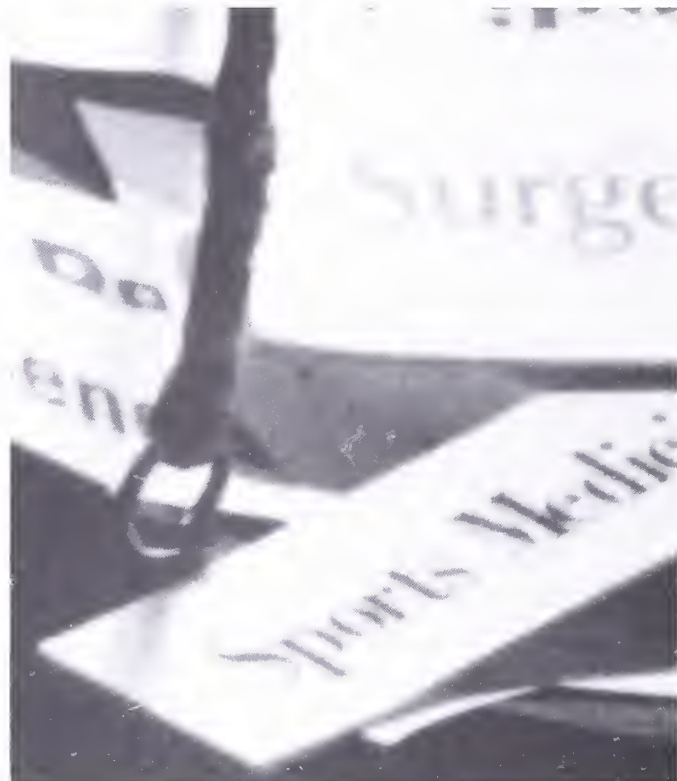
Meanwhile, at Yale, administrators and alumni leaders are discussing contingencies that could ease the pressure of mounting student debts.

Associate Dean Gifford is considering an income-contingent plan whereby borrowers who receive financial aid would pay a percentage of their salary until the debt incurred by their graduating class is paid off. Because those who earn smaller salaries would pay less, students could choose research or other lower paying areas of medicine without fear of how they could support their medical school debts.

Another approach calls for alumni classes to sponsor individual students with scholarships or low-interest loans. Such awards would go to students who stated a career preference for a lower paying or underserved area of medicine.

Neither approach, however, would be without its problems. The first invokes the memory of the Tuition Postponement Option, a percentage-payback plan that was instituted at Yale College in the early 1970s. It was discontinued after only a few years because low-interest government loans became available and not enough students chose to enlist.

The second plan would require a fundamental change in the school's philosophy of providing financial aid. Through the current unit loan system, scholarships are provided in a uniform fashion and on a needs-basis only. Scholarships based on career interest, while easing the debt burden of some students, would



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engender complaints of others who do not receive extra scholarship aid despite similar needs and interests.

As the dialogue over long-term strategy continues, however, a specter looms over the immediate future: The cost of attending medical school will keep escalating even as the prospects for low-interest student loans continue to dim.

For the Yale University School of Medicine to continue her legacy of attracting the best students from all walks of life, support from her alumni must continue to grow.



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HERE AND ABOUT

Team Evaluates Curriculum

Just as physicians diagnose their patients' condition, a new School of Medicine task force will examine the medical curriculum and diagnose the four-year educational program.

"The best aspects of the Yale curriculum are its flexibility and diversity," says Dr. Edward J. Benz Jr., professor of medicine and human genetics and chairman of the task force on curriculum evaluation. "While we would like to know that every Yale graduate comes out well educated, all of our students don't necessarily have to take the same courses."

Hallmarks of the Yale System are the minimum number of required lectures and the thesis requirement. "We will not recommend any changes in these areas; we will not tamper with things sacred to the curriculum, and we will preserve its flexibility," Dr. Benz says.

The task force, which includes department chairmen, members of the curriculum committee, faculty and medical students, is not empowered to write a new curriculum, Dr. Benz emphasizes. "We are simply going to study it." At the same time, the school's curriculum committee, a separate group which he also chairs, will continue to monitor ongoing course offerings.

Basically, the task force will:

- Define the goals of a Yale medical education which trains both professors and practitioners.

- Hold the curriculum up against certain educational standards to see whether such essential aspects as nutrition and outpatient practice are being taught and to see whether such basic science courses as physiology and pharmacology are complementing clinical experiences.

- Recommend, in a broad way, the scope of any curriculum revisions. This process may range from revising some areas to writing a new curriculum. The task force then will provide guidelines about which areas need to be preserved or strengthened.

Among specific questions that the task force will address are: What are the best ways to teach students the clinical skills they need? How do educators relate vast amounts of basic science information to the complexities of clinical care? Should basic sciences be reintroduced in the fourth year? Is teaching an activity that is sufficiently recognized and rewarded at Yale?

The task force has invited faculty, students and recent graduates to present their views on the curriculum. In addition, Dr.

Benz has written to peer institutions, such as Stanford and Johns Hopkins, to learn about their educational programs. "While we are looking for ideas and insights from others, we don't want to repeat someone else's mistakes," he notes.

The work is expected to be completed by the end of May. Dr. Benz projects, adding "We are not predicting answers or solutions until we get the data."

Why did Dean Leon E. Rosenberg appoint the curriculum task force?

Several factors indicated the merit of such a move. Recently, the faculty agreed to introduce a new course, "Professional Responsibility," during the second year, but it was difficult to find a place in the curriculum. This pointed up the need to look at the curriculum in anticipation of future course additions that will adapt physician education to new challenges.

There also is a need to take a closer look at the fourth-year program, where students may benefit from a more structured approach. Now, Dr. Benz says, these students spend considerable time interviewing for residency positions and writing their theses.

Among suggestions the task force will consider is reintroducing basic sciences in the fourth year, after students have had some clinical experience. "Basic science and clinical experience are two universes that students have to master. Integrating these areas is very important if physicians wish to stay current and help their patients," notes Dr. Benz.

The current approach, which divides the curriculum into two distinct parts, may not allow students to appreciate how the basic sciences and clinical experiences are intertwined, Dr. Benz explains. "One needs to think of these four years of medical school as the first stage of ongoing education, not just as single-shot training. . . . Physicians should always use basic science to try to understand what happens to patients."

Members of the Task Force for Curriculum Evaluation include:

Walter F. Boron, M.D., Ph.D., professor of cellular and molecular physiology

Dr. Ann M. Curtis, professor of diagnostic radiology

Dr. Richard L. Edelson, professor and chairman of the department of dermatology

Sonya S. Erickson, third-year medical student

Dr. Robert H. Gifford, associate dean for education and student affairs

Dr. Richard J. Gusberg, associate professor of surgery

Ethan A. Halm, second-year medical student

Dr. Barbara Kinder, associate professor of surgery

Vincent T. Marchesi, M.D., Ph.D., chairman of the department of pathology and the Anthony N. Brady Professor of Pathology, Cell Biology

and Biology

Dr. Dwight F. Miller, associate clinical professor of pathology and president of the Association of Yale Alumni in Medicine

Gordon M. Shepherd, M.D., D.Phil., professor of neuroscience

Walter M. Stadler, fourth-year medical student

Arthur J. Viseltear, Ph.D., associate professor of the history of medicine and public health

Dr. Joseph B. Warshaw, professor and chairman of the department of pediatrics

Novel Mentorship System Stimulates Networking

The Office for Women in Medicine has initiated a novel system whereby spouses of School of Medicine faculty will be paired as mentors for partners of postdoctoral fellows, residents and interns.

"The mentorship system will provide both professional and social networks," says Merle Waxman, the director of the Office for Women in Medicine, who has established the program.

"We expect the mentors to be important role models during this period of intense training when the spouses of postdoctoral fellows, residents and interns have to cope with a variety of issues, and often feel stressed, anxious or socially isolated," says Ms. Waxman.

"We expect that mentors will provide an introduction to Yale University, Yale-New Haven Hospital and the Greater New Haven area, to the intricacies of being a medical partner, and to the ways in which couples can effectively balance busy careers with family responsibilities," she adds.

The mentorship program is an outgrowth of recommendations made by the housestaff support group, called Support Plus. The group was organized last year by two psychotherapists who are in private practice and are medical spouses.

Yale-New Haven Board Elections

Dr. Leon Rosenberg, dean of the School of Medicine, and Sheila Wellington, '68 M.P.H., M.U.S., secretary of Yale University, were elected to Yale-New Haven Hospital's 28-member board of trustees in December, 1987. Also elected was George W. Edwards, Jr., chairman of the board and chief executive officer of United Illuminating.

Yale Physicians Building Enhances Patient Care



Interior view: atrium

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In early March, the School of Medicine opened the Yale Physicians Building, a four-story, \$13 million facility located at 800 Howard Ave.

"The building represents a major step for the school to operate more efficiently its specialty ambulatory care programs which are essential components of our mission," explains Dean Leon E. Rosenberg.

The 95,000 square-foot building includes specialty care services in dermatology, ear, nose and throat; neurology, obstetrics and gynecology, medical oncology, orthopaedics and rehabilitation, pediatrics, surgery and urology. In addition, the genetic counseling service has moved into the new facility.

Dr. Richard H. Greenspan, associate

dean for clinical affairs, notes that the new building consolidates and centralizes many of the specialty ambulatory patient care services that full-time faculty physicians provide patients who are referred from throughout the Northeast and around the world. In the past, these services have been at sites scattered throughout Yale-New Haven Medical Center.

A number of outpatient specialty services have not moved, including internal medicine, which remains in the Dana Clinic Building. It is easily accessible to the Yale Physicians Building via a second-floor pedestrian bridge over Howard Avenue. The Yale Eye Center also remains in its newly renovated space in the Boardman Building.

For the convenience of patients, the Yale Physicians Building also houses satellites of a number of Yale-New Haven Hospital services, including diagnostic imaging, electrocardiography, clinical laboratories and physical therapy. A Medical Center Pharmacy satellite is located on the first floor.

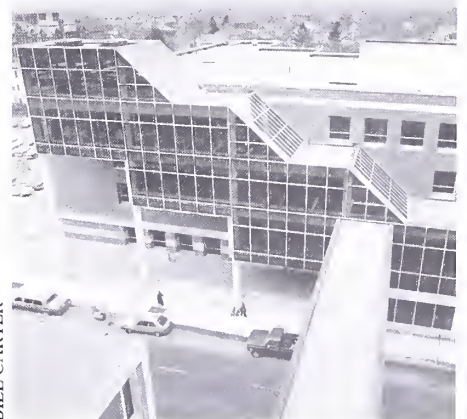
The building is fully accessible to the handicapped; it includes handicapped parking immediately adjacent to the building, ramps and a revolving entrance door which accommodates wheelchairs. Additional patient parking adjoins the facility.

"This summer, we will have a computerized patient appointment scheduling system installed," Dr. Greenspan explains. "The system will simplify the scheduling of appointments for referring physicians and their patients and also will provide patients with preregistration information."

Faculty offices for four medical school departments or sections are now housed in the new building. These include ear, nose and throat; orthopaedics and rehabilitation; plastic surgery and urology.

Ellerbe Associates, Inc., an architectural and engineering firm based in Minneapolis, Minn., designed the new building, while Morganti Inc. of Ridgefield, Conn., served as the primary contractor.

The Yale Physicians Building: exterior view



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EPH Receives \$311,000 Recruitment Grant

The department of epidemiology and public health has received a three-year federal grant to encourage minority and economically disadvantaged students to obtain graduate education leading to careers in public health.

The new Health Careers Opportunity Program (HCOP) is funded by a \$311,000 grant from the U.S. Department of Health and Human Services. EPH is one of the few graduate and professional schools to receive the award. Most grants go to undergraduate colleges to recruit high school students into health-oriented programs.

The new HCOP grant encourages students to seek graduate education in order to enter the health field where their views and talents are needed.

"We are very pleased to receive this grant," says Professor Stolwijk, the principal investigator. "In this time of tight money, the federal government has recognized our commitment to promoting educational opportunities for minorities and the economically disadvantaged."

Professor Stolwijk notes that while the HCOP grant will complement the comprehensive teaching program already in place, it will be administered in the student Resource Center, which counsels students about careers and

practicum opportunities.

Comments Matthew Lopes, assistant director of the center. "HHS awarded this grant because we argued successfully that the field of public health needs these professionals. It is a field where students can choose from among a wide variety of vital, fulfilling careers."

He adds that while EPH minority enrollments have not followed the downward national trend, the HCOP grant should allow the department—which is an accredited school of public health—and other health schools to increase their numbers of minority students as these students become aware of career opportunities in the health field.

The EPH Resource Center will recruit students, provide academic support if it is needed, and assist them in obtaining health experience. Students in their junior college year are helped with their senior course selections.

Mr. Lopes has already visited colleges in Connecticut, Rhode Island, Virginia, Massachusetts and Georgia. Career advisors at some of these schools will also visit Yale to see the program in action. A committee of students, faculty and health professionals will advise and monitor the program.

As part of the HCOP grant, Yale investigators will study why some students elect to go to graduate school and why some choose health careers but others do not.

Sports Medicine Center Opens at Long Wharf

The Sports Medicine Center, a joint effort of the department of orthopaedics and rehabilitation at the School of Medicine and Yale-New Haven Hospital, opened in January.

Physicians at the center, located adjacent to the Gaylord/YNHH Rehabilitation Center at Long Wharf, will diagnose and treat sports medicine problems and injuries.

"The Sports Medicine Center brings together outstanding expertise and facilities. It provides state-of-the-art patient care, including diagnosis, treatment and rehabilitation. At the same time, it serves a worthwhile teaching function," states Dr. Gary E. Friedlaender, chief and chairman of orthopaedics and rehabilitation at the hospital and medical school.

Dr. Peter Jokl, professor of orthopaedics and rehabilitation, will direct the center, along with Dr. J. Kevin Lynch, assistant clinical professor.



The Class of 1991: Who's Who

Nina J. Abramson, Brooklyn, N.Y.
B.A. (chemistry) *City University of New York, Brooklyn*, 1987

Jeanne Bari Ackman, Chappaqua, N.Y.
B.S. (biology) *Harvard University*, 1987

Marc Edward Agronin, Appleton, Wis.
B.A. (philosophy/psychology) *Harvard University*, 1987

Cargill Herley Alleyne, Washington, D.C.
B.S. (chemistry/mathematics) *George Washington University*, 1986

Jorge Guillermo Arroyo II, Tampa, Fla.
B.A. (engineering/neurobiology) *Amherst College*, 1987

Stephen Michael Bell, Milton, Mass.
B.A. (biology) *Harvard University*, 1986

Stacy Ann Beller, Bowie, Md.
B.A. (biology) *Wellesley College*, 1985

Adrienne Louise Bennett, New York City
B.A. (biology) *Vassar College*, 1981

Peter Samuel Bernstein, Setauket, N.Y.
B.A. (English) *Yale University*, 1986

Mark Steven Bianchi, Brooklyn, N.Y.
B.A. (biology) *New York University*, 1986

Michael Jason Borodkin, New York City
B.A. (history) *University of Pennsylvania*, 1987

Elizabeth Ann Bower, Woodside, Calif.
B.A. (biology) *Stanford University*, 1984

Marcus Otho Butler, Houston, Texas
B.S. (biology) *Rice University*, 1987

Michael Anthony Capozza, Houston, Texas
B.A. (biochemistry/biology) *University of California, San Diego*, 1987

Steven Brooks Care, Oberlin, Ohio
B.A. (philosophy) *Yale University*, 1986

Jeffrey Donald Carter, St. Louis, Mo.
B.A. (African and Afro-American studies/biology) *Washington University*, 1987

Jonathan Theodore Chai, Syracuse, N. Y.
B.S. (biology) *Stanford University*, 1985

Ada Cheung, Alberta, Canada
B.S. (medical microbiology) *Stanford University*, 1987

Christopher John Cohen, Swarthmore, Pa.
B.A. (biology) *Swarthmore University*, 1986

Daryl Keith Daniels, West Newton, Mass.
B.A. (biology) *Washington University*, 1986

Sarah Ann Davidson, Larchmont, N. Y.
B.A. (English) *Columbia University*, 1987

Frederic White-Brown Deleyiannis, Alexandria, Va.
B.A. (history) *University of Pennsylvania*, 1987

David Jeffrey Eisenman, Teaneck, N. Y.
B.A. (classical studies) *Columbia University*, 1987

Elizabeth Denise Elguera, Elmhurst, N. Y.
B.A. (biology) *Johns Hopkins University*, 1986

Mark Alan Epstein, Dallas, Texas
B.A. (biology) *Stanford University*, 1986

Amin Fazeli, Beverly Hills, Calif.
(biology) *University of California, Los Angeles*, 1987

Daniel William Fitzgerald, Sudbury, Mass.
B.A. (philosophy) *University of Notre Dame*, 1986

Douglas Theodore Fleming, Princeton, N. J.
B.A. (religious studies) *Yale University*, 1984

Colleen Daun Foy, Madison, Wis.
B.A. (anthropology) *University of Wisconsin*, 1982

Gaetane Caroljean Francis, Cambridge, Mass.
B.S. (biology/engineering) *Massachusetts Institute of Technology*, 1986

David Frankfurter, Jamesville, N. Y.
B.S. (psychology) *Syracuse University*, 1986

Jean Louise Fraser, Atlanta, Ga.
B.A. (biology) *University of Chicago*, 1987

Gwendolyn Grant, New York City
B.A. (art) *Amherst College*, 1981

Leacroft Fitz-Henley Green, Bronx, N. Y.
B.A. (theology) *Atlantic Union College*, 1978

Michele Yolanda Griffith, Teaneck, N. J.
B.A. (biology) *University of Pennsylvania*, 1987

James Akio Hartleroad, Indianapolis, Ind.
B.S. (biochemistry) *Indiana University*, 1986

Irene Marion Hegeman, Eastport, N. Y.
B.S. (biology) *Cornell University*, 1987

Carl Thomas Henningson, Hazlet, N. J.
B.S. (chemistry) *Seton Hall University*, 1987

James Whitney Hicks, New Haven, Conn.
B.A. (classical civilization) *Yale University*, 1987

Class of 1991 Profile

The Class of 1991, comprised of 66 men and 38 women, was selected from 1,935 applicants representing more than 40 colleges. The class includes four students accepted through the early decision plan, 10 students enrolled in the M.D., Ph.D program, three children of Yale University faculty and seven children of alumni, two of whom are children of medical school alumni. Three of the first-year students hold Ph.D. degrees and six have master's degrees.

Black Americans and other minority students comprise 24 percent of the Class of 1991. Four of the students are foreign nationals. Students in the Class of 1991 range in age from 19 to 35, with a mean age of 23.

As in previous classes, the majority of the Class of 1991 were science majors as undergraduates, but one third of the students had majors in the humanities and social sciences, 6 percent more than the Class of 1990.

Twelve of the first-year students are Yale alumni, 10 are Harvard graduates and seven graduated from the University of Pennsylvania.

Lawrence James Hirsch, Holmdel, N. J.
B.A. (computer science) *University of Pennsylvania*, 1987

John Sheda Ho, Killeen, Texas
B.S. (biology) *Johns Hopkins University*, 1987

Elizabeth Hopkins Holt, New Haven, Conn.
B.S. (biology) *Columbia University*, 1986

Larry Horesh, Atlanta, Ga. (physics) *Georgia Institute of Technology*, 1986

Karen Mei Hsieh, Towson, Md.
B.A. (biochemistry) *Harvard University*, 1986

Doris Monica Iarovici, Forest Hills, N. Y.
B.S. (biology) *Yale University*, 1987

Richard George Ihnat, Nishanic, N. J.
B.A. (biology) *Rutgers University*, 1987

Richard Geoffrey Ingber, Cambridge, Mass.
B.A. (English) *Harvard University*, 1973
M.A., Ph.D. (comparative literature) *Harvard University*, 1983

Paul Allen Isenbarger, Whittier, Calif.
B.A. (chemistry) *Whittier College*, 1987

Alan Bruce Jotowitz, Teaneck, N. J.
B.S. (pre-health sciences) *Yeshiva College*, 1986

John Edmund Kilty, Hillsborough, Calif.
B.A. (physiology) *University of California, San Diego*, 1987

Himi Tina Kim, Menands, N. Y.
B.S. (economics) *Harvard University*, 1986

Kurt Treider Kubicka, Yardley, Penn.
B.A. (biology/economics) *Cornell University*, 1987

Helena Akua Kwakwa, Accra-North, Ghana
B.A. (chemistry) *Bryn Mawr College*, 1987

Kenneth Allen Laughinghouse, Mantoloking, N. J.
B.A. (chemistry) *Dartmouth College*, 1987

James Scott Levine, St. Louis Park, Minn.
B.A. (biology) *Harvard University*, 1986

David Bruce Lim, Livermore, Calif.
B.A. (physiology) *University of California, Davis*, 1987

Doris Da May Lin, Ephrata, Penn.
B.A. (chemistry) *University of Pennsylvania*, 1986

Thomas Samuel Lin, Texas City, Texas
B.A. (chemistry) *Harvard University*, 1987

Francis Matthew Lobo, Scranton, Penn.
B.A. (biology) *University of Pennsylvania*, 1985

Monica Lee McDonald, Blaine, Minn.
B.S. (biology/genetics) *University of Utah*, 1987

Edward Leonard McNellis, Nanuet, N.Y.
B.S. (pharmacy) *Duquesne University*, 1984

Peter Sebastian Marcus, Anaheim, Calif.
B.A. (history) *Tulane University*, 1987

Ellen Ann Markstein, Springfield, N.J.
B.A. (biology) *Williams College*, 1986

Funda Meric, Lawrenceville, N.J.
Hacettepe University (Turkey)

David Bernard Miklos, White Oak, Penn.
B.S. (pre-professional studies) *University of Notre Dame*, 1987

Kent K. Min, Woodcliff Lake, N.J.
B.A. (biology) *Brown University*, 1987

Jane Elizabeth Minturn, Torrance, Calif.
B.S. (biology) *University of Southern California*, 1986

Quoc Ai Nguyen, Huntington Beach, Calif.
B.S. (biochemistry) *University of California, Irvine*, 1987

John McIntosh Ninos, Fayetteville, N.Y.
B.A. (biology) *Dartmouth College*, 1985

Gonzalo Javier Paz-Soldan, Weston, Mass.
B.A. (biology) *Boston University*, 1987

Andrew Fisher Phillips, Princeton, N.J.
B.A. (chemistry) *Amherst College*, 1987

John Luther Phillips, Tarrytown, N.Y.
B.S. (biology) *Wesleyan University*, 1987

Eleanor Susan Pollak, South Bend, Ind.
B.A. (biochemistry) *Harvard University*, 1985

Marc Nicholas Potenza, Highland Park, N.J.
B.S., M.S. (molecular biophysics & biochemistry)
Yale University, 1987

Pablo Alejandro Quintela, Jr., Hialeah, Fla.
B.A. (chemistry) *University of Miami*, 1987

Eric Alan Richard, Warwick, R.I.
B.S.E. (engineering) *University of Pennsylvania*, 1987

Lauren Renee Rodgers, Yardley, Penn.
B.A. (chemistry) *Princeton University*, 1984

Michael Fedele Romanelli, Saint James, N.Y.
B.A. (philosophy) *Princeton University*, 1987

Elizabeth Rubin Roth, New Haven, Conn.
B.A. (history) *Yale University*, 1985

Kathryn Marie Ryder, Lexington, Mass.
B.S. (biology/psychology) *Yale University*, 1987

Daniel Benjamin Saal, West Orange, N.J.
B.S. (biology) *Massachusetts Institute of Technology*, 1987

Jeffrey Scott Schechner, Brookline, Mass.
B.A. (biology) *Boston University*, 1987

Marc Seltzer, New York City
B.S. (meteorology science) *McGill University*, 1983
M.S. (meteorology science) *Massachusetts Institute of Technology*, 1984

Grant Harper Shumaker, Fairfax Station, Va.
B.A. (biology) *Harvard University*, 1987

Ann Marion Smith, Essex Fells, N.J.
B.S. (psychology) *Duke University*, 1987

Robin Lisa Smith, New York City
B.A. (psychology) *Yale University*, 1986

Gina Michelle Solomon, New York City
B.A. (comparative literature) *Brown University*, 1986

Robert Matheson Spillane, Woodland Hills, Calif.
B.A. (chemistry) *California State University, Northridge*, 1987

James Edward Stanislaw, Warren, Ohio
B.S. (pre-professional studies) *University of Notre Dame*, 1987

Christopher Charles Steevens, Claremont, Calif.
B.A. (psychology) *Stanford University*, 1986

Margaret Reba Stevens, New Haven, Conn.
B.A. (psychology) *Harvard University*, 1986

Jivin Gerard Tantisira, Glendale, Calif.
B.S. (psychology) *University of Southern California*, 1982
M.S. (biology) *California State University*, 1985

Chloe Lynne Thio, Marietta, Ga.
B.A. (biochemistry) *University of Pennsylvania*, 1987

Margaret Maria Toth, Lakewood, Ohio
B.A. (anthropology) *Case Western Reserve University*, 1987

Anthony Yu-Ning Tse, Gaithersburg, Md.
B.A. (biochemistry) *Dartmouth College*, 1987

Steven Jay Ugent, Milwaukee, Wis.
B.A. (biology/Spanish) *Washington University*, 1987

David Andrew Utzschneider, Cantonsville, Md.
B.A. (physics) *Bowdoin College*, 1985

Marco Verga, Dix Hills, N.Y.
B.S. (biochemistry) *State University of New York, Stony Brook*, 1987

Ellis Lorenzo Webster, Anguilla, West Indies
B.S. (biology) *University of the Virgin Islands, West Indies*, 1986

Symphorosa Magdaleine Williams, Silver Spring, Md.
B.S. (zoology) *Howard University*, 1987

Mindy Ellen Wiser, Freehold, N.J.
B.A. (economics) *Brown University*, 1987

Waichi Wong, Jamaica, N. Y.
B.S. (molecular biophysics & biochemistry) *Yale University*, 1986

James Su-Min Yeh, Bethesda, Md.
B.S. (chemistry) *Yale University*, 1987

Sang-Wook Tim Yoon, Eastman, Ga.
B.S. (engineering) *Massachusetts Institute of Technology*, 1987

EPH Class of 1989 Profile

In the department of epidemiology and public health, 71 women and 43 men are enrolled in the first-year class. One student is enrolled in a combined M.D., M.P.H. program, and five are seeking a combined master's degree in nursing and public health.

The Class of 1989, which includes 16 foreign nationals and 27 black and other minority students, comes from 19 states and 14 countries. Fifteen first-year students are nurses; 16 hold M.D. degrees; one student has a D.V.M. degree and one has a J.D. degree. The remainder earned undergraduate degrees in the sciences and liberal arts.

The department of epidemiology and public health, in addition to being a department of the medical school, is an accredited school of public health.

GALLERY

The Anatomist Overtaken by the Watch . . .

by William Austin (*British, 1721-1820*)

In the 18th century, anatomists and surgeons were not viewed kindly by the public. This was due, in part, to the practice of dissection and the illegal means of procuring subjects—resurrection—literally raising the dead. William Austin's print, published in 1773, implicates William Hunter, one of England's most prominent anatomists, in a grave robbing incident. Hunter flees to the right as the watchman, hired to protect the sanctity of the cemetery, sounds his rattle in a call for help. The watchman holds unto a burly resurrectionist, typical of the professionals who supplied the dissecting rooms of London hospitals and private schools, such as Hunter's at Great Windmill Street. The body of Miss Watts, in a hamper for its removal, has fallen to the ground. It is unlikely that a physician of Hunter's stature would have ventured into the cemetery himself, but that he employed others to do so is certain. That fact that the subject, Miss Watts, is named, implies that the print is based on a real incident.--*Susan Wheeler*



Courtesy of the Clements C. Fry Collection, Medical Library.

IN PROGRESS

Researchers Earn Javits Awards

Two scientists from the Yale School of Medicine—one an expert on secretory cells and another on how our senses perceive the world—have received Javits Neuroscience Investigator Awards from the National Institutes of Health.

William Douglas, M.D., F.R.S., professor of pharmacology, will use his seven-year, \$1.1 million award to continue his longstanding investigation into how calcium and other mediators allow cells to "understand" an outside stimulus as a message to begin secretory activity. His research may have implications for diseases such as cystic fibrosis and diabetes, in which patients' secretory cells behave pathologically.

Lawrence E. Marks, Ph.D., professor of epidemiology and psychology, and fellow and associate director of the John B. Pierce Foundation Laboratory, received his award to support research on perceptual processes in the senses of touch, hearing, vision and taste. It extends a current five-year NIH grant for two years, and brings his total funding from the federal agency to \$789,000.

The Javits Award is granted through the National Institute of Neurological and Communicative Disorders and Stroke, and is named in honor of the late U.S. Sen. Jacob Javits of New York. It is given to research scientists "who have a distinguished record of contributions in some field of neurological or communicative sciences and who can be expected to be highly productive over the next seven years."

\$1.25 Million Grant Funds Spinal Study

The National Institute of Neurological and Communicative Disorders and Stroke has awarded Yale a five-year \$1.25 million grant to study a new approach to spinal analgesia. Principal investigator Dr. Luke M. Kitahata, professor of anesthesiology at the School of Medicine, will test whether newly developed experimental opiate-derivatives are feasible for spinal analgesia. These drugs promise effective and long-lasting analgesia without the side effects that accompany the opioid analgesics now in use.

Dr. Kitahata's pioneering studies on the effects of anesthetics and opioid analgesics on spinal cord function have involved a sophisticated technique that records the functioning of single neurons, the cells that play a key role in transmitting nerve impulses.

Major Research Project on Dyslexia Begins

Researchers at the School of Medicine, in cooperation with the Haskins Laboratories, have initiated a major new research project combining powerful new technologies and innovative approaches to better understand dyslexia.

Dr. Bennett A. Shaywitz, associate professor of pediatrics, neurology, and at the Child Study Center, is the principal investigator for the five-year project funded last fall by the National Institute of Child Health and Human Disorders. The \$4 million grant to Yale University will enable Dr. Shaywitz and his colleagues to extend their work on learning and attention disorders in children.

"This comprehensive project represents a major step forward in understanding dyslexia. It offers, for the first time, the potential of using magnetic resonance imaging (MRI) data to provide detailed pictures of the anatomy, as well as innovative electrophysiologic measures to examine the brains of school children with dyslexia," says Dr. Shaywitz.

The MRI information will be combined with state-of-the-art linguistic testing to focus on the precise anatomic areas related to language and reading and to relate anatomic patterns found in the brains of dyslexic children to specific reading patterns.

Dyslexics, according to Dr. Shaywitz, "have difficulty learning, even though they may have conventional instruction, adequate intelligence and educational opportunities. . . . From both its prevalence and its impact on children and families, the disorder presents a major concern to educators, physicians and families.

"Our new research project will allow us to approach this important disorder in the same serious fashion that we use to investigate other disorders, such as diabetes," the pediatric neurologist says. "The study also will have broad implications for public policy on education of individuals with dyslexia."

The project has four components:

- learning about the relationship between language and reading in children between ages 7½ and 9½ years. This will involve magnetic resonance imaging and even newer electroencephalographic techniques to examine dyslexic children's brains;
- studying the genetic patterns of reading disability in children, their siblings and parents;
- studying the relationship of attention disorders to reading disorders;
- relating the kinds of reading disabilities found in the children studied to learning disabilities in a more general population.

Dr. Kashgarian Leads Kidney Study

An interdisciplinary team in the School of Medicine has started a new research project to define the way cells respond in initiating and perpetuating the disease processes that lead to chronic kidney failure.

Dr. Michael Kashgarian, professor of pathology and vice chairman of the pathology department, is directing the program project for which the National Institutes of Health has granted \$1.5 million to Yale University. The research will focus on the kidney.

"Chronic renal disease is one of the major medical expenditures in the United States," says Dr. Kashgarian, who estimates that more than \$4 billion per year is spent on dialysis and kidney transplantation.

"We plan to use molecular biological techniques to examine the cellular processes which lead to chronic renal disease," explains Dr. Kashgarian, "and we have initiated three main studies." Specifically, the team will look at:

— endothelial cells and supporting molecules in chronic renal disease of diabetes

— kidney filter cells and supporting molecules in progressive renal diseases, ranging from early kidney scarring to loss of kidney function

— cells of the kidney tubules which transport salt and water and their reaction to injury and recovery.

The three-year research project brings together basic scientists who are collaborating to examine practical problems related to various aspects of chronic renal disease. In this innovative approach, they are applying fundamental scientific information and new techniques to the study of kidney disease.

"We now have molecular probes to look at the interaction of cells, what they produce and how these products are regulated in cells, what stimulates synthesis and how cells respond to injury. With new techniques, we can look at the cellular events that control the disease response," Dr. Kashgarian explains.

For instance, the researchers hope to learn more about the factors that cause kidney disease to progress even after a kidney injury has been treated. This often results in the loss of kidney function, the treatment of which drains the patient's financial resources.

In addition, the researchers are looking at the cellular and molecular aspects of how a cell organizes its own structure and how this relates to the way salt and water are transported in the kidney.

Coinvestigators with Dr. Kashgarian are: Dr. Heinz Furthmayr, professor of pathology; Joseph A. Madri, M.D., Ph.D., associate professor of pathology; Dr. Ed-



Dr. Kashgarian

ward J. Benz Jr., professor of medicine and human genetics; Dr. Bernd Sterzel, associate professor of medicine; Harald Foellmer, Ph.D., assistant professor of medicine; Mark S. Mooseker, Ph.D., associate professor of biology and cell biology, and Jon S. Morrow, M.D., Ph.D., associate professor of pathology.

Frozen Brain Cells Transplanted in Monkeys

Researchers at Yale University and the University of Rochester have successfully frozen and preserved monkey brain cells, and these cells have survived transplantation in three monkeys.

The brain cells, called dopamine neurons, use the chemical substance dopamine to control subtle motor movements, among other central nervous system functions. If primates or humans lose nearly all of their dopamine neurons, they show the signs of Parkinson's disease.

In May 1986, the Yale-Rochester team was the first to publish a scientific report on the survival of transplanted brain cells in primates. In these animal studies, the researchers reversed the symptoms of Parkinson's disease in monkeys by transplanting fresh fetal dopamine neurons.

In the new studies, the team has developed cryopreservation—freezing and storing—techniques which will move physicians and biomedical scientists a step closer toward clinical applications to treat Parkinson's disease in humans, according to Dr. D. Eugene Redmond Jr., professor of psychiatry and director of the neurobehavior laboratory in the School of Medicine. He also is director of the Yale-Rochester primate neural transplant program.

These animal studies, completed last year, were reported in the current issue of *Brain Research*, an international journal published in Amsterdam. Timothy J. Collier, Ph.D., assistant professor of neurobiology and anatomy at the University of Rochester, is the first author of the report.

In conducting the federally funded research, the Yale-Rochester team found that it could grow the same dopamine cells in tissue culture after the cells were frozen and stored in liquid nitrogen. Cells stored for as long as 28 days remained viable.

Investigators Win MERIT Awards

Of 13 Yale scientists who earned MERIT research awards in 1987 from the National Institutes of Health, 11 are faculty members of the School of Medicine. MERIT (Method to Extend Research in Time) is an NIH program that provides from seven to 10 years of support for medical research to principal investigators with a longstanding record of excellence.

Investigators may not apply for MERIT awards. The NIH National Advisory Boards which evaluate proposals for standard five-year research grants recommend the awards for only the most promising research. This reduces the paper work award winners must put into raising money for long-term projects, thus freeing time that the scientists can dedicate to their research. Last year, the NIH made 187 MERIT awards in the United States for a total of more than \$40 million. Average annual payments to Yale researchers for the awards are in the range of \$130,000 to \$150,000.

Observes H.G. Aaslestad, director of grants and contract administration for the School of Medicine, "The Merit Awards illustrate the excellence of the medical school's scientific faculty, as determined by their peers and by high level NIH officials." He points out that Yale had the second highest number of MERIT awards among the nation's medical schools, behind the University of California at San Francisco, which had 18 winners.

The following summary highlights the research projects of MERIT award recipients who are faculty members of the Yale School of Medicine:

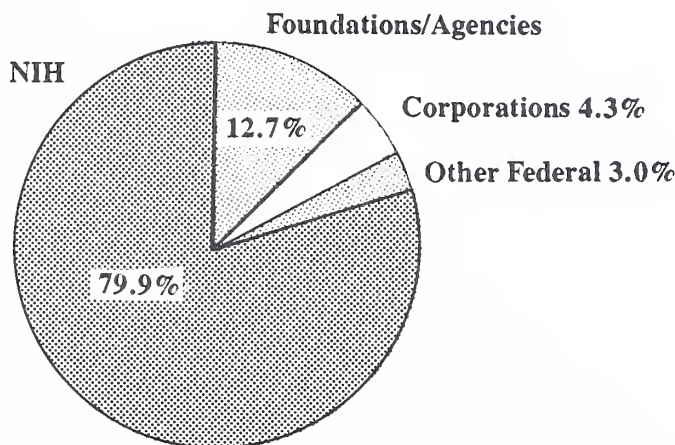
- Dr. Philip W. Askenase, professor of medicine and pathology. Dr. Askenase's work focuses on the role of certain T cells in skin hypersensitivity. His research may have a bearing on understanding allergic diseases and on the functioning of body's immune system.
- Ari H. Helenius, Ph.D., professor of cell biology, is attempting to learn more about how viruses invade cells and then use the host cells' genetic material to multiply. His study is focusing on both the cellular and the molecular levels and may help in understanding the flu virus.
- James D. Jamieson, M.D., Ph.D., professor of cell biology and chairman of the cell biology department, is studying how the pancreas sorts and targets secretory proteins within the organ's individual cells. His research has implications for diseases such as cystic fibrosis and pancreatic cancer, in which cell polarity is lost.

- Kenneth K. Kidd, Ph.D., professor of human genetics and psychiatry, is attempting to locate within strands of human DNA the genes that may cause schizophrenia, Tourette's syndrome and other mental disorders.
- Dr. I. George Miller, the John F. Enders Professor of Pediatric Infectious Disease, Epidemiology, and Molecular Biophysics and Biochemistry, is studying on a molecular level the Epstein-Barr virus, associated with mononucleosis, herpes and other diseases. His team is trying to discover how the virus multiplies in immunodeficient individuals, such as AIDS victims and organ transplant patients.
- Dr. George E. Palade, Sterling Professor Emeritus of Cell Biology and senior research scientist in cell biology, will continue his molecular research into the workings of the vascular endothelium, the cells that line blood vessels. His research is shedding light on how cardiovascular diseases develop.
- Howard Rasmussen, M.D., Ph.D., professor of medicine, physiology and cell biology, is investigating various aspects of cell physiology, including how information is communicated from a cell's exterior to its interior via calcium channels.
- John Kenneth Rose, Ph.D., professor of pathology and cell biology, is leading a molecular investigation

into how some viruses target themselves to particular membranes within the body, and then reproduce once they reach those membranes. His study will help in the fight against such virus infections.

- Dr. Leon E. Rosenberg, the C.N.H. Long Professor of Human Genetics, Medicine and Pediatrics, and dean of the School of Medicine, is attempting to illuminate how inborn errors in metabolizing certain amino acids may be related to such conditions as Down's syndrome. His research could lead to more effective prenatal diagnosis of inherited diseases.
- Dr. Kay Tanaka, professor of human genetics, is spearheading research about the genetic evolution of certain inherited metabolic disorders such as isovaleric acidemia and glutaric aciduria. Understanding the history of such diseases on a molecular level may reveal clues to possible cures.
- Dr. Robert B. Tesh, associate professor of epidemiology, is studying insect-borne viruses such as yellow fever, dengue and Japanese encephalitis, that are submitted to the World Health Organization's Reference Center for Arboviruses, part of the Yale Arbovirus Research Unit. The unit also trains researchers from around the globe to identify such viruses.

Yale School of Medicine Sponsored Research Sources of Funds



During the 1987 fiscal year, the School of Medicine received \$64 million for sponsored research to cover direct costs. Nearly 80 percent of this total was funded by the National Institutes of Health.

FACULTY NEWS

Dr. Shope Presented Arbovirology Award

Dr. Robert E. Shope, professor of epidemiology and director of the Yale Arbovirus Research Unit, was the co-recipient of the Richard Moreland Taylor Award for 1987 of the American Committee on Arthropod-borne Viruses. He was recognized for his outstanding achievement in the field of arbovirology during the annual meeting of the American Society of Tropical Medicine and Hygiene last December in Los Angeles.

Established in 1966 and presented every three years, the award honors the late Dr. Taylor, who was a Rockefeller Foundation staff member before teaching in Yale's department of epidemiology and public health. Dr. Taylor died in 1981.

Both men have centered much of their research on arthropod-borne viruses, or arboviruses—pathogens that are transmitted by the bite of infected arthropods, such as ticks, mosquitoes and sandflies, and usually involve a reservoir host.

Dr. Shope's contributions to the knowledge of arboviruses and certain other viruses linked to them have been described as "exceptional, original and pioneering." Among his outstanding achievements are his work on rabies, Rift Valley fever and the reassortment of genetic material among virus serotypes.

One of Dr. Shope's colleagues, Dr. Jordi Casals, professor emeritus of epidemiology and now professorial lecturer at Mount Sinai School of Medicine, recently described the work of this "complete arbovirologist." He wrote:

"From the time of Pasteur, until Dr. Shope proved otherwise, rabies virus had been considered to be an agent totally distinct; the only one of its type with no antigenic relatives or variants.

"As a result of Dr. Shope's work and its influence on other investigators, rabies lost its aloofness, became identified as part of a family of viruses mostly arthropod-borne. Even more importantly, antigenic differences between isolates became apparent, a fact which had a great impact on diagnosis, strain selection for vaccination and on the epidemiology of the disease.

"A similar situation developed with Rift Valley fever, a disease of considerable veterinary and medical importance. The virus causing it had been known for about 50 years. But Dr. Shope's investigations on the serological properties of the phlebotomus fever antigenic group of viruses resulted in the unexpected finding that Rift Valley fever virus was a member of this group, subsequently named the genus *Togavirus*. This finding came shortly after the devastating 1977 epidemic in Egypt in which Dr. Shope contributed with

distinction. It also resulted in new guidelines for specific diagnosis and epidemiological investigations.

"A third important contribution by Dr. Shope concerns his work on reassortment of genetic material between arboviruses. Investigators who first defined the antigenic group C had noticed that strains of Caraparu virus, identified as such by hemagglutination-inhibition and neutralization tests, reacted in one of two different ways in the complement-fixation test: Certain strains cross-reacted by CF with the other group C viruses, certain other strains did not. In fact, the latter strains of Caraparu failed to react with the former; it seemed as though some strains of virus were deficient in the group C common antigen.

"Dr. Shope came up with a brilliant concept: the rapid turnover of group C viruses in the Belem area of Brazil made it conceivable that an occasional strain might by chance, in nature, acquire pieces of genetic material from another group C virus yielding a recombinant with altered antigenic properties.

"Today, exchange of genetic material between viruses is almost a daily routine laboratory procedure, but this was not so in the mid-1960s. At a later date and in association with other colleagues, Dr. Shope studied genomic reassortment in the California group and showed changes in the resistance of mice to experimental inoculation correlating to the presence or absence of a given RNA piece."

Drs. Rosenberg, Ruddle Endorse Federal Gene Mapping Project

Dean Leon E. Rosenberg and his colleague Frank Ruddle, Ph.D., professor of biology and human genetics, served on a National Research Council committee that unanimously endorsed a \$3 billion national effort to map the human genome.

The massive project, which would pinpoint the location of all human genes and establish how their chemical building blocks are sequenced, would cost \$200 million annually for the next 15 years.

Yale would play a major role in any such project by virtue of the Human Gene Mapping Library, located at Science Park in New Haven. With Professor Ruddle as its co-founder and director, the library offers the largest gene data base in the country.

The committee concluded that gene mapping offers the best hope of identifying the genes responsible for 3,000 inherited diseases, including cystic fibrosis, Huntington's disease and certain kinds of Alzheimer's disease.

Included on the distinguished 15-member panel was James D. Watson, who discovered the double helix structure of DNA.

Dr. Baldwin to Head Cardiothoracic Surgery

Dr. John C. Baldwin, an internationally renowned heart and lung transplant surgeon, has been appointed professor and chief of cardiothoracic surgery at the Yale School of Medicine and Yale-New Haven Hospital.

He comes to New Haven from the Stanford University Medical Center, where among his many responsibilities, he was an assistant professor of cardiovascular surgery and head of the heart-lung transplantation program.

For his joint hospital-medical school appointment, Dr. Baldwin will be responsible for program and educational development in the cardiothoracic section of the department of surgery. He will teach at the medical school and serve as an attending surgeon at the hospital.

"Dr. Baldwin comes to this position with a reputation for being an exceptional surgeon, as well as a committed academician," commented Dr. William F. Collins Jr., chairman and the Harvey and Kate Cushing Professor of Surgery. "He is a pioneer in the field of heart and lung transplants among children with cystic fibrosis. This novel surgery is a potentially crucial treatment for this common and lethal disease which usually kills by causing pulmonary failure."

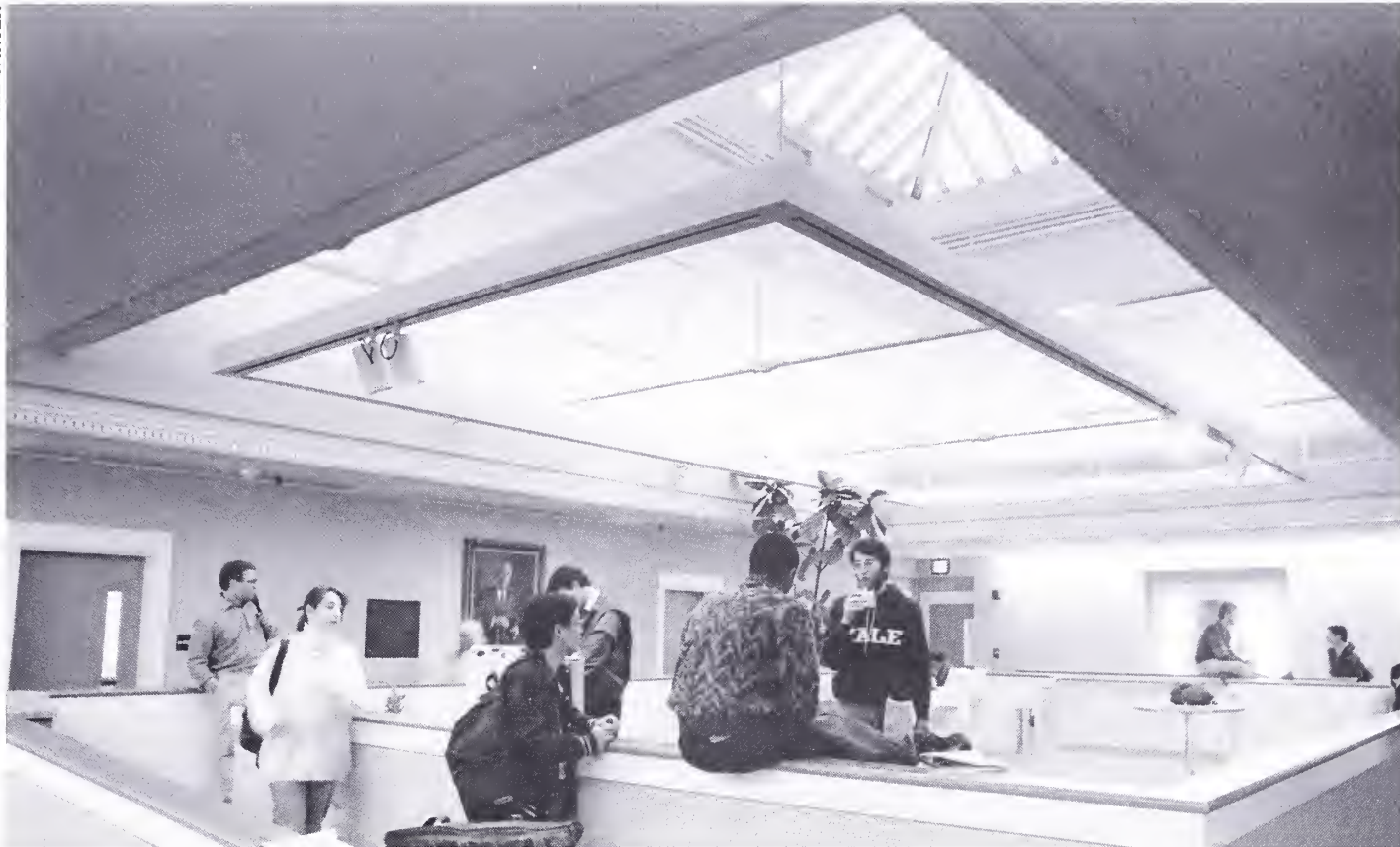
The new chief of cardiothoracic surgery said he was attracted to the position because of the hospital's reputation as a leading clinical center and the strength of the medical school's basic scientific research.

"The beauty of basic cardiothoracic research is that it can be so readily applied to clinical practice. This is particularly true in the area of lung preservation where basic research has quickly led to success in the distant procurement for heart-lung grafts," Dr. Baldwin noted.

While the distant transport of hearts for transplantation has been common practice for years, even short-term preservation of donor lungs had proven difficult, thus precluding the possibility for such transplants to patients in faraway locations. Techniques developed by Dr. Baldwin and other Stanford researchers have led to longer viability for donor lungs, thus allowing for the transport of these life-saving organs across city, state and even international borders.

Dr. Baldwin said that among his top priorities were to strengthen the laboratory for clinical practice at the cardiothoracic section, and expand the clinical program for training residents.

His international awards include a 1985 designation as Medalist of the Gothenburg Thoracic Society in Sweden. In 1987 Dr. Baldwin was awarded the Madaile de la Ville de Bordeaux from the French Thoracic Society.



Students gather in the Arthur Ebbert Lounge.

Arthur Ebbert Lounge

"Ask Art Ebbert."

For 34 years, that refrain has echoed throughout Sterling Hall of Medicine as legions of medical students, faculty and staff have sought Dr. Arthur Ebbert's wise counsel and advice during his tenure as assistant dean, associate dean and the school's first deputy dean.

People still seek him out, and Dean Leon E. Rosenberg and others have tapped him for several special projects requiring his quiet diplomacy even though Dr. Ebbert relinquished his position as deputy dean in August and began a long-overdue sabbatical year.

Last June, the dean hosted an afternoon reception honoring Dr. Ebbert. More than 600 faculty, University administrators, medical alumni, hospital colleagues and friends attended the Yale-blue event in the Edward S. Harkness Courtyard.

The outdoor celebration for the gentleman who has been the soul of the medical school for 34 years marked the end of an era: the Ebbert era, according to Dean Rosenberg, one of the five deans with whom Dr. Ebbert has worked.

Under sunny skies, words of praise were spoken in animated conversations and in the special remarks offered by Deans Rosenberg and Robert Berliner, who also read comments from former deans Fritz Redlich and Lewis Thomas and from Peg Lippard, the widow of Dr. Lippard. Dr. Dorothy M. Horstmann, the John Rodman Paul Professor Emeritus of

Epidemiology and Pediatrics, spoke on behalf of the faculty.

To recognize his extraordinary contributions and service to Yale, the third-floor lounge in the Jane Ellen Hope Building has been named the Arthur Ebbert Lounge. Dr. Rosenberg announced at the reception. Since then, Dr. Ebbert's portrait, painted by William F. Draper of New York City, has been hung in the lounge, along with a gray slate plaque citing his service to the school. And the deputy dean's responsibilities have been handed on to Dr. Robert M. Donaldson, also a professor of medicine.

A native of Wheeling, W. Va., Dr. Ebbert received his B.A. and M.D. degrees from the University of Virginia, where he also completed residency training in internal medicine. In 1953, he joined the Yale faculty as an instructor in medicine and was asked by Dean Lippard to serve also as assistant dean of postgraduate medical education. Although Dr. Ebbert intended to stay only a year or two, he remained as a member of the faculty in internal medicine and rose through the deanery ranks.

During his service in the dean's office, he has seen many changes in the School for Medicine. For instance, the size of the entering class of M.D. candidates rose from 80 to 102 students; the number of M.P.H. students increased from 29 to more than 200, and the physician associate program was established.

The faculty increased from approxi-

mately 150 to more than 700. New departments have been established, including anesthesiology, cell biology, dermatology, human genetics, laboratory medicine, neurology, ophthalmology and visual science, and orthopaedics and rehabilitation.

The buildings constructed during Dr. Ebbert's tenure have changed the face of the school, beginning with the Edward S. Harkness Hall in 1955 and extending to the recently completed Yale Physicians Building. The growth of the medical center has been tremendous, he noted, and the surrounding neighborhood has completely changed.

Dr. Ebbert recently observed, "One thing which has not changed in the past 34 years is the quality of our students; they are still the best to be found anywhere."

During his sabbatical year, Dr. Ebbert has been reading, writing, thinking and traveling, as well as skiing and sailing.

Yale Ranks Third In NIH Funding

For the second consecutive year, during FY 1987 Yale ranked third among 124 medical schools receiving support from the National Institutes of Health. Including both direct and indirect costs, the school received over \$89.7 million from the NIH. Ranking above Yale were the University of California at San Francisco (\$102 million), and Johns Hopkins (\$93.5 million).



THOMAS STILTZ

Dr. White

Dr. Robert White to Lead Diagnostic Radiology

Dr. Robert I. White Jr., formerly professor of radiology and of medicine at Johns Hopkins University, has been named chairman of the Yale University School of Medicine department of diagnostic radiology and chief of this service at Yale-New Haven Hospital.

Dr. White succeeds Dr. Richard H. Greenspan, who earlier was named to the newly created position of associate dean for clinical affairs.

"We are delighted that Dr. White will lead our diagnostic radiology department. He is an internationally recognized leader in the field of cardiovascular and interventional radiology, and he has a well-earned reputation as an outstanding teacher, researcher and physician," says Dean Leon E. Rosenberg.

Comments Dr. White, "Radiologists often have been referred to as the cartographers of the human body. We now are developing a new breed of radiologists who do more than use x-rays to 'map' the body. Instead we use imaging technology to study disease and make an impact on treatment."

Dr. White has concentrated his professional work on interventional radiology, a medical specialty that employs radiologically guided wires, catheters, stone baskets, balloons and drug infusions.

One of Dr. White's many clinical innovations is a treatment for varicocele, a type of male infertility. Also, in 1980, he and his colleagues performed the first balloon valve surgery to open heart valves blocked by congenital heart disease. Dr. White has done pioneering work in treating lung malformations as well.

A native of Los Angeles, Dr. White received a B.A. degree in 1959 from Po-

mona College and an M.D. degree magna cum laude in 1963 from the Baylor University College of Medicine. He was an Osler intern in medicine at Johns Hopkins Hospital. In 1969, he completed residency training in radiology and medicine at Johns Hopkins Hospital and then joined the university faculty as an instructor in radiology.

At Johns Hopkins University, Dr. White directed seven cardiovascular diagnostic laboratories from 1971 until 1988. He was named assistant professor of radiology in 1971 and was appointed professor of radiology in 1977. He also holds joint appointments in medicine, pediatrics and surgery.

A fellow of the American College of Radiology, Dr. White served as secretary, vice president and president of the American Society of Cardiovascular and Interventional Radiology from 1982 to 1985. He also was a scholar in radiological research of the James Picker Foundation.

A prolific author, Dr. White has published more than 170 articles in scientific journals.

Dr. Bunney Awarded First Lieber Prize

Dr. Benjamin S. Bunney, acting chairman of the department of psychiatry, has been awarded the \$50,000 Lieber Prize by the National Alliance for Research on Schizophrenia and Depression (NARSAD).

Dr. Bunney, also professor of psychiatry and of pharmacology, is the first recipient of the award, which recognizes outstanding achievement in research on mental illness. The prize was established this year with a gift by Constance and Stephen Lieber of Mamaroneck, N.Y. Dr. Bunney will use the prize to replace outdated laboratory equipment.

Dr. Bunney's research has focused on the brain's dopamine system, which has been implicated in the major neuronal dysfunction of schizophrenia. He has also pioneered research on the effects of antipsychotic drugs on the brain, and how they effect transmissions in the dopamine system.

"This is a particularly exciting time to be working in the area of brain function," says Dr. Bunney. "There has been an explosive growth in both the fields of neuroscience and population and molecular genetics. Because of this, the tools are now becoming available which allow us to answer questions that we couldn't answer before."

Dr. Evans Wins Military Award

Alfred S. Evans, M.D., M.P.H., the John Rodman Paul Professor of Epidemiology, has been awarded the John R. Seal Award for his contributions to military medicine. The annual award, given by the Society of

Medical Consultants to the Armed Forces, cites Dr. Evans' long history of contributions to the U.S. military, beginning with his service as an active duty medical officer in Japan in 1944. Over the years Dr. Evans has also served as a preventive medicine consultant to several U.S. Surgeons General, and has advised the Navy Submarine Service, NASA's Manned Space and Space Shuttle Programs and the World Health Organization's Tropical Medicine Program.

NEW BOOKS

The American Disease: Origins of Narcotic Control, an expanded edition, by Dr. David F. Musto, professor in the Child Study Center, psychiatry, and the history of medicine. Oxford University Press, (New York) 1988.

Early Schooling: The National Debate, edited by Sharon L. Kagan Ed.D., associate research scientist in the Child Study Center, and Edward F. Zigler, Ph.D., Sterling Professor of Psychology and professor in the Child Study Center. Yale University Press, 1988.

Manual of Cardiac Arrhythmias: A Practical Guide to Clinical Management, edited by Dr. Stephen C. Vlay '75, State University of New York at Stony Brook. Little, Brown and Co., (Boston, Mass.) 1987.

Medicine on Trial, by Charles Inlander of Emmaus, Penn., Lowell S. Levin, Ed.D., M.P.H., professor of public health, and Ed Weiner of Philadelphia. Prentice-Hall Inc., (New York) 1988.

The Parental Leave Crisis: Toward a National Policy, edited by Edward F. Zigler, Ph.D., Sterling Professor of Psychology and professor in the Child Study Center, and Meryl Frank, director of the infant care leave project at The Busch Center in Child Development and Social Policy, Yale University. Yale University Press, 1988.

When Doctors Get Sick, edited by Dr. Harvey Mandell, associate clinical professor of medicine, and Dr. Howard Spiro, professor of medicine. Plenum Publishing Corp., (New York) 1988.

Dr. Pruett Earns Book Award

Dr. Kyle D. Pruett, associate clinical professor in the Child Study Center and psychiatry, has won *American Health Magazine's* Book Award for *The Nurturing Father: Journey Toward the Complete Man*. Dr. Pruett's book tells of 17 families in which the father stays home to provide childcare.

ALUMNI NEWS

The University Foundation at the State University of New York at Albany named **Dr. Ralph D. Alley** '43, '51 HS as 1987 Citizen Laureate, the foundation's highest award for civic and academic community representatives. Dr. Alley, a thoracic surgeon who introduced open heart surgery to northern New York in 1958, was honored for his contributions to medical science and education. A past president of the Society of Thoracic Surgeons, Dr. Allen is a member of the board of governors of the American College of Surgeons and director of the American Board of Thoracic Surgery.

Dr. Henry Jones '43, '46 HS, a radiologist at Stanford University for nearly 40 years, has received the Association of University Radiologists Gold Medal Award for distinguished service.

Dr. Donald W. Seldin '43, '46 HS resigned Feb. 1, after 35 years as chairman of the department of internal medicine at Southwestern Medical School at the University of Texas Health Science Center at Dallas.

His accomplishments in shaping the academic program at Southwestern Medical School were described in a major feature story in *The New York Times*, published Feb. 13. Dr. Seldin, a former instructor and assistant professor of medicine at Yale, began his career at Southwestern in 1951. At that time the school consisted of a series of abandoned army barracks with no funding for permanent buildings. In 1952, as Dr. Seldin planned a return to Yale, a new dean, Dr. George Aagard, persuaded him to become chairman of the department of internal medicine, a department of one—Dr. Seldin. Today the department has 150 faculty members.

Dr. Seldin developed Southwestern's basic sciences and research faculty by persuading many of his brightest students to make their careers in academic medicine at Southwestern. Among them are Nobel laureate Dr. Joseph L. Goldstein, and Southwestern's current president, Dr. Kern Wildenthal. His successor is another former student, Dr. Daniel W. Foster, an internationally known diabetes specialist.

Dr. John P. McGovern '46 HS, founder and chief consultant to the McGovern Allergy Clinic in Houston, has been appointed to a four-year term on the National Advisory Council on Alcohol Abuse and Alcoholism.

Dr. William G. Anlyan '49 has been appointed chancellor of Duke University effective July 1. Dr. Anlyan, chancellor for health affairs at Duke since 1983, and executive vice president since 1987, began his career at Duke in 1949 as a resident in

general and thoracic surgery. He was promoted to professor of surgery in 1961. He was named dean of the School of Medicine in 1964, and in 1969, after having served one year as dean and associate provost, was appointed vice president for health affairs, a position he held until 1983, when he was appointed chancellor for health affairs.

As chancellor, Dr. Anlyan will serve on the university's committee of chief executive officers and will oversee major aspects of Duke's external affairs. He also will take an important role in alumni relations and selected aspects of fund raising.

At Yale, President Benno C. Schmidt Jr. has appointed Dr. Anlyan chairman of the University Council Committee on Medical Affairs, the presidential advisory committee that studies major scientific and medical issues. He will serve a five-year term.

In an editorial in the Panamerican Federation of Associated Medical Faculties newsletter, federation chief **Dr. Jose Felix Patino** '52, '58 HS, of Bogota, Columbia, urged faculties at Latin American medical schools to emphasize recent progress in molecular biology and scientific medicine.

Dr. Robert G. Petersdorf '52, president of the Association of American Medical Colleges, received the American Society of Internal Medicine "Distinguished Internist of 1987" award at its annual meeting Oct. 15 in Washington, D.C. The award is presented annually to an internist who has made outstanding contributions to the social and economic aspects of medicine and has helped to promote cost-effective, high-quality care.

Dr. Thomas F. Ferris '57, '63 HS, Nesbitt Professor and chairman of the department of medicine at the University of Minnesota, has been elected president of the American Society of Nephrology. His one-year term began Jan. 1.

Dr. Gerard N. Burrow '58, '65 HS, formerly chairman of the department of medicine and the Sir John and Lady Eaton Professor at the University of Toronto and physician-in-chief of Toronto General Hospital, became vice chancellor for health sciences and dean of the University of California, San Diego, School of Medicine on March 1. He succeeds Dr. Robert G. Petersdorf '52.

After completing his education and training at Yale, Dr. Burrow joined the faculty and was professor of medicine, when he left Yale in 1976 to become director of the division of endocrinology metabolism at Toronto General Hospital, and professor in the Banting and Best Department of Medicine Research at the University of Toronto. A member of numerous professional organizations, Dr. Burrow has recently completed terms as president of both the American Thyroid Association

and the Canadian Association of Professors of Medicine. He also has served as director of the American Thyroid Association.

At the Connecticut Division's 1987 leadership conference and annual dinner Oct. 24, the American Cancer Society awarded **Dr. John C. Marsh** '59, professor of medicine and lecturer in pharmacology, a bronze medal, the highest national award given to ACS volunteers. Dr. Marsh, an oncologist and an immediate past president of the Connecticut Division, became an ACS volunteer in 1971. Since that time he has served the society in several capacities on the national, state and local levels.

Dr. Robert I. Levy '61, '63 HS became president of the Sandoz Research Institute in East Hanover, N.J. on Jan. 1. He will not be joining the Association of American Medical Colleges staff as was previously announced.

Dr. H. Steven Moffic '71, associate professor of psychiatry at Baylor College of Medicine in Houston, published his thoughts on the changes in medicine in a fictional account of his 15th reunion in *The Pharos of Alpha Omega Alpha*, Summer 1987, Vol. 50, No. 3.

Dr. Peter S. Kennedy '71 HS, an oncologist at St. Vincent Medical Center in Los Angeles and assistant clinical professor of medicine at the University of Southern California School of Medicine, was named associate principal investigator for the Community Oncology Program, a program established by the National Cancer Institute to make innovative cancer treatment programs available to patients in community hospitals. As director of clinical practices for the Los Angeles Oncologic Institute, an affiliate of St. Vincent Medical Center, Dr. Kennedy is director of the oncology unit and chairman of both the department of medicine and the department of hematology-oncology.

Dr. Stephen C. Vlay '75 was promoted to associate professor of medicine at the State University of New York at Stony Brook. Dr. Vlay, a cardiologist, is director of the Stony Brook Arrhythmia Study and Sudden Death Prevention Center and director of the Coronary Care Unit at University Hospital.

Dr. Anne Flitcraft '77, assistant professor of medicine at the University of Connecticut School of Medicine and her husband, sociologist Evan Stark, in cooperation with the Office for Women in Medicine, presented a state-wide training conference at Yale on Jan. 21 on the identification and treatment of victims of domestic violence. Dr. Flitcraft is director of the Domestic Violence Training Project: A Program for Health Professionals, developed in accordance with Connecticut's new Family Violence Prevention and Response Act.

OBITUARIES

Massimo E. Calabresi, M.D., Dr. P.H.

Dr. Massimo E. Calabresi, Dr. P.H. '44, clinical professor emeritus of medicine, died Feb. 28 at his home in New Haven. He was 84.

A native of Italy and former chief cardiologist at the University of Milan, Dr. Calabresi was an early opponent of the fascist movement. His activities in helping to circulate an underground anti-fascist newspaper forced him to leave Italy in 1939. He came to Yale in 1940 as a research fellow and was named assistant clinical professor of medicine in 1941, associate clinical professor in 1959, and clinical professor emeritus in 1971.

Dr. Calabresi worked as a cardiac physiologist for the Connecticut Department of Health from 1950 to 1952, when he became chief of the cardiovascular section at the Veterans Administration Medical Center in West Haven. His work in cardiology led to innovative treatments for hypertension.

Dean Leon E. Rosenberg, who met Dr. Calabresi during his residency training in internal medicine at the Veteran's hospital, remembers Dr. Calabresi "as one of the most compassionate and devoted physicians I've ever known. Moreover, I found his commitment to the education of students and house officers as total as his devotion to patients. Over the years my admiration for this modest, noble man was continually reinforced, and like so many of those he taught, I shall miss him greatly."

His wife, Bianca, who for many years was a professor and chairman of the Italian department at Albertus Magnus College in New Haven, died in 1982. Surviving are his sons, Guido Calabresi, dean of the Yale Law School, and Dr. Paul Calabresi, chairman of the department of medicine at Brown University; a sister, Renata Calabresi; and six grandchildren.

Henry I. Fineberg, M.D.

Dr. Henry I. Fineberg '27 died in New York Oct. 4, 1987. He was 83. Dr. Fineberg served as president of the Medical Society of New York from 1959 to 1960, and its executive vice president from 1961 until his retirement in 1982. A New York delegate to the AMA House of Delegates from 1959 to 1978, he was chairman of the delegation from 1961 to 1969. Dr. Fineberg specialized in communicable diseases, and from 1939 to 1940, he was physician-in-charge at Kingston Avenue Hospital for Communicable Diseases in Brooklyn, N.Y., and in 1942 was named medical superintendent of Queens Hospital Center.

Dr. Fineberg was 1927 class agent for the Medical School Alumni Fund and a past president of the Yale Alumni Association of Queens, N.Y. He is survived by

his wife, Grace; a daughter, Karen; and a son, Coleman.

William U. Gardner, Ph.D.

William U. Gardner, Ebenezer K. Hunt Professor Emeritus of Anatomy and chairman of the anatomy department from 1943 to 1967, died Feb. 14 in Yale-New Haven Hospital of Parkinson's disease. He was 80.

Professor Gardner began his career at Yale in 1933 as a National Council Research fellow. He was appointed to the faculty in 1935, and in 1943 was named Ebenezer K. Hunt Professor of Anatomy and department chairman. He was a strong supporter of the Yale System of medical education, and in the early 1940s developed a method of teaching anatomy called prosection, which was adopted nationwide. Professor Gardner's research focused on reproductive endocrinology and the influence of hormones on abnormal and malignant growths.

An internationally recognized scientist, Professor Gardner received several honorary degrees, including one from the University of Perugia in Italy. He was a former president of the International Union Against Cancer, the American Association for Cancer Research and the American Association of Anatomists. An associate editor of several scientific journals, he also served on numerous advisory boards, including those of the National Research Council, U.S. Public Health Service, National Cancer Institute, American Cancer Society, and National Board of Medical Examiners.

Mr. Gardner was named Ebenezer K. Hunt Professor Emeritus at his retirement in 1974. He served as scientific director of the Council of Tobacco Research from 1974 to 1984.

He is survived by his wife, Catherine. Memorial contributions may be made to the William U. Gardner Loan Fund, established in 1973 to provide financial aid to medical students.

Patrick S. Mullins, M.D.

Dr. Patrick S. Mullins '42 of Morehead City, N.C. died December 18, 1987. He was 73. Surviving are his wife, Margaret; a daughter Patricia Ann Dyk; two sons, Terrence Thomas and Kevin Michael; and one grandchild.

Paul J. Myerson, M.D.

Dr. Paul Joseph Myerson, assistant professor of radiology from 1975 to 1980, died Jan. 2 at Ormond Memorial Hospital in Florida. Dr. Myerson, 48, had lived in Ormond Beach, Fla. since 1981. He leaves his wife, Sandra; two sons, Terry and Neal; two brothers, Dr. Daniel A. Myerson, with whom he practiced, and Dr. Manny Myerson.

Hugh R. Williams, M.D.

Dr. Hugh R. Williams '46 died Dec. 9, 1987 of prostatic cancer at his home in Royal Oak, Md. He was 65. Dr. Williams was director of the Talbot County Mental Health Clinic in Easton, Md., from 1977 to 1985 and the in-patient psychiatrist at Franklin Square Hospital in Baltimore from 1985 until early 1987.

Dr. Williams had been an assistant professor of psychiatry at the State University of New York at Buffalo and at the University of Colorado Medical Center. He also was associated with Mary Imogene Bassett Hospital in Cooperstown, N.Y., and the Geisinger Medical Center in Danville, Penn., and had a private practice in Highland Park, N.J.

Surviving are his wife, Irene; four sons, Hugh Jr., David, Mark and Paul; a daughter, Margaret Karl; a sister, Anne Sullivan and four grandchildren.

Robert P. Zanes Jr., M.D.

Dr. Robert P. Zanes, associate clinical professor of medicine since 1978, died Jan. 13 after a brief illness. Dr. Zanes was a member of the executive committee of the Yale Comprehensive Cancer Center and was associated with several New Haven area hospitals. He had been chief of the oncology section and director of the oncology unit at the Hospital of St. Raphael from 1975 to 1982, when he became medical director of Connecticut Hospice in Branford. From 1985 to 1987, he was vice president for medical affairs. He remained at hospice in 1987 as a staff physician.

He is survived by his wife, Carmela; two sons, Robert and Richard; a step-son, Clifford John Dudley, and a step-daughter, Clotilde Dudley; a sister, Priscilla Buckley; and one grandchild.

Memorials

Contributions made in memory of deceased alumni are put into the Medical School Alumni Fund endowment in the decedent's name. Classmates receive fund credit in the year the gift is made. Income from these gifts is added, in perpetuity, to the Medical School Alumni Fund and credited to the deceased and his or her class.

Names of all alumni remembered through this program are listed in the fund's *Testament of Remembrance*, and the memorialized alumni are considered contributors to the fund forever.

The next of kin is informed of contributions made to this person's memory.

Yale Medical School
In Memoriam Program
P.O. Box 1890
New Haven, CT 06508
(203) 432-5844

IN MEMORIAM

Waldo F. Desmond September 7, 1987	'25 M.D.
William H. Holden, M.D. August 13, 1984	'26 HS
Henry Irwin Fineberg October 4, 1987	'27 M.D.
Vincent A. Doroszka September 6, 1987	'30 M.D.
Donald G. Barton October 20, 1986	'33 M.D.
Merriwell T. Shelton, M.D. October 3, 1987	'33 HS
Derick A. January June 27, 1987	'34 M.D.
Russell C. Norton, M.D. February 25, 1987	ex med '39
Ruth G. Taylor January 17, 1988	ex pbh '40
Patrick S. Mullins December 18, 1987	'42 M.D.
Massimo E. Calabresi, M.D. February 28, 1988	'44 Dr. P.H.
Hugh R. Williams December 9, 1987	'46 M.D.
Blackburn S. Joslin, M.D. February 26, 1986	ex HS '48
H. Lester Medlinsky, M.D. March 21, 1987	'60 HS
Martin R. Krigman, M.D. October 27, 1986	'61 HS
Amalia P. Crago November 13, 1987	'66 M.P.H.
Alan M. Gutman, M.D. June 5, 1987	'67 HS
John F. Neil	'73 M.D.
Harry I. Kaminsky December 29, 1987	'86 PA

Real Estate Bequest Establishes Fund

An alumna of the Class of 1952 of the School of Medicine has endowed a fund to support untenured faculty members in the department of pathology. The will of Virginia Swanson Kamen, M.D., who died on May 20, 1987, directed that Yale receive a one-half interest in a 122-unit apartment complex in Modesto, California. The proceeds from the sale of the property by Yale will establish the Virginia L. Swanson Sustaining Fund for Junior Faculty.

By helping to launch careers of promising young scientists, Dr. Swanson's bequest meets a crucial need. Much research funding is awarded on the basis of an investigator's prior results rather than his or her future promise. This makes it ex-

tremely difficult for underendowed departments to attract the most talented young men and women to academic careers.

Dr. Swanson enrolled at Yale in 1948 thanks to the encouragement of famed Yale physiologist, Dr. John Fulton. Her interest in research was kindled when she served as a laboratory helper in the renowned primate laboratory directed by Dr. Gertrude Van Wagenen. Through Dr. Van Wagenen she met the virologist and faculty member Dr. Dorothy Horstmann, the first woman to achieve full professorial status in the School of Medicine. The two became lifelong friends of Dr. Swanson.

After completing a USPHS Fellowship, Dr. Swanson returned to serve as chief resident and later assistant pathologist at Grace-New Haven Community Hospital. From there her career led her to hospital pathology work overseas and eventually to distinguished service as staff pathologist and professor at Children's Hospital, the pediatric division of the University of Southern California Medical School.

In 1982 she chose to concentrate on her research interests, studying human tumor transplants in nude mice at the University of California San Diego, changes during aging in spawning salmon through Scripps Institute of Oceanography, and temporal lobe induced epilepsy in children during a visiting fellowship at the Department of Neuroanatomy at Oxford University. She maintained close contact with her friends at Yale, even during her final illness.

In a moving eulogy of Dr. Swanson, her husband Dr. Martin D. Kamen, himself an internationally known biochemist, wrote, "In searching through her desk I found a clipping she had saved of a remark attributed to Winston Churchill which is apt: 'You make a living by what you get, but you make a life by what you give.'"

Gilman Professorship Established

A challenge grant from The Burroughs Wellcome Fund proved to be the catalyst for the establishment of the first endowed professorship in the department of pharmacology at Yale. The chair will honor the late Alfred Gilman '28S, Ph.D. '31, who was a member of the National Academy of Sciences, a Yale faculty member, and one of the most important pharmacologists of his generation.

Dr. Gilman's book, *The Pharmacological Basis of Therapeutics*, coauthored with Louis S. Goodman, M.D., is now in its seventh printing.

Dr. Gilman served for more than 20 years as an advisor to the Burroughs Wellcome Fund. The foundation was established in 1955 to provide financial aid for the advancement of medical knowledge by research and is financially supported by the pharmaceutical firms, Burroughs Wellcome Co.

The Burroughs Wellcome Fund Challenge was met through memorial gifts from family and friends of Dr. Gilman and by corporate contributions from Hoffmann-La Roche and Macmillan, Inc., Dr. Gilman's publisher. A major anonymous gift completed funding of the Alfred Gilman Professorship of Pharmacology.

The Yale Corporation appointed Alan C. Sartorelli, Ph.D., as the first Gilman Professor. A member of the pharmacology faculty since 1961, Dr. Sartorelli served as chairman of the department from 1977 until he was named director of the Yale Comprehensive Cancer Center. He edits two pharmacology journals and serves as president of the American Association for Cancer Research and the Association of American Cancer Institutes. In June 1987, he was elected to the Institute of Medicine of the National Academy of Sciences.

Why The "Double Ask"?

As part of the Yale School of Medicine's first capital campaign, volunteers will be contacting you, our alumni, to ask for your support.

Gifts from alumni and friends enhance the school's academic programs and over the years have sustained the quality of medical teaching and research at Yale. Most alumni gifts come in response to solicitations by the Yale Medical School Alumni Fund. These unrestricted gifts are applied by the dean for current use in financial aid for medical students.

A major impediment to the school's progress is its limited endowment resources. The Campaign for Yale School of Medicine was launched in 1985 to address this problem and to meet other immediate capital needs of the school.

The alumni fund remains a leading priority of the school, and campaign solicitations are intended to build upon annual alumni giving, not to replace it. The "Double Ask" means that alumni are being asked to continue their level of giving to the Yale Medical School Alumni Fund and to contribute toward strengthening of the school's endowment through the Campaign for Yale School of Medicine.

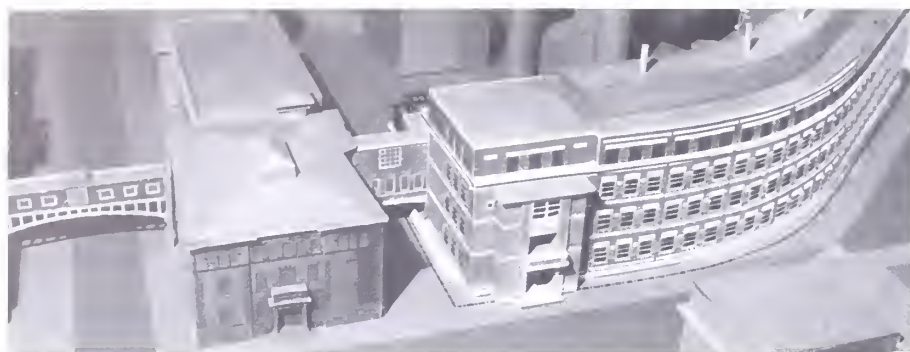
This is an important opportunity for alumni to help to insure that your alma mater will continue to be a leader in medical discovery and clinical treatment, and in preparing young people for the new era in medicine.

**Office of Development
Yale School of Medicine
350 Congress Avenue, Wing C-3
P.O. Box 3761 Yale Station
New Haven, Connecticut 06520
(203) 785-4420**

**Yale Medical School Alumni Fund
P.O. Box 1890
New Haven, Connecticut, 06508
(203) 432-6075**

DEVELOPMENT REPORT

ROBERT TAYLOR



Artist's rendering of the Center for Molecular Medicine

Markey Trust Grants \$12.1 Million

One of the largest foundation grants the University has ever received will establish a new research program in the soon-to-be-constructed Center for Molecular Medicine. The Lucille P. Markey Charitable Trust of Miami, Fla., will provide \$12.1 million over five years to fund the center's program in molecular oncology and development, which will be directed by Dr. Sherman M. Weissman, Sterling Professor of Human Genetics, Medicine and Molecular Biophysics and Biochemistry. An acknowledged leader in studies of gene structure and function, Dr. Weissman will lead a team of approximately eight faculty members and their staffs who will study cells whose regulatory mechanisms influence cell growth and replication and the development of the organism.

In announcing this significant gift, Dean Leon E. Rosenberg said, "Much has

already been learned about the structure, function and location of cancer-causing genes called oncogenes. However, we still understand very little about how these genes act during normal development and differentiation. The Markey Trust's crucial gift will enable Yale to mount a major new program in molecular oncology and development at an unusually opportune time for progress and understanding of human biology and disease."

The will of the late Lucille P. Markey established the trust in 1983, and directed that its assets be used exclusively for supporting and encouraging basic medical research. Mrs. Markey was the owner of Calumet Farm, a thoroughbred breeding and racing stable in Lexington, Ky.

Since 1984, Yale also has benefitted through the trust's Markey Predoctoral Fellowship Program which provides three years of financial aid for Ph.D. candidates in the departments of physiology and human genetics.

PVA Supports Neuroscience Center

The Paralyzed Veterans of America, a congressionally chartered organization with a longstanding interest in spinal cord injury, has pledged \$1.5 million to the School of Medicine for support of spinal cord injury research and laboratory facilities. The research will be conducted in a new facility constructed at the Veterans Administration Medical Center in West Haven. The facility will be dedicated May 14 as the PVA/EPVA Center for Neuroscience and Regeneration Research of Yale University.

Yale's chairman of neurology, Stephen G. Waxman, M.D., Ph.D., will direct the new center. Dr. Waxman is an internationally known expert in spinal cord injury and disease. The center's research will focus on ways in which the nervous system responds to injury, as well as the growth and

regeneration of nerve cells, their interaction with glial or supporting cells, and ways in which they develop the capacity to conduct nerve impulses.

PVA represents more than 12,500 members who participate through 40 chapters around the nation. Its largest chapter, Eastern Paralyzed Veterans Association (EPVA), is based in New York. R. Jack Powell, executive director of PVA, announced the grant in a letter to Dean Leon E. Rosenberg. "For PVA, our major financial commitment to this center and the unqualified support clearly evident from PVA chapters and friends nationwide underscores our solemn and continuing commitment to dedicate our best efforts, energy, time and resources, not only to improve the lives of those with spinal cord injury or disease, but also to provide aggressive leadership in the crucial quest for a cure for all mankind," Powell said.

Campaign Update

As the following summary shows, gifts and pledges to The Campaign for Yale School of Medicine totalled \$140,235,500 as of December 31, 1987. This represents nearly four years of intensive activity on the part of the dean, faculty members and a corps of volunteers across the country led by Campaign Chairman Frank A. Sprole.

Plans are now underway to bring the campaign to a successful conclusion by July 1, 1988, through a nationwide effort to reach all graduates of the School of Medicine to ask for their participation in this, the first major capital campaign mounted by the school. The alumni solicitation will be directed toward completing the campaign objectives which have not yet been fully met. Foremost among these is the need for endowment funds. Thus far, \$25 million in endowment gifts have been received toward the original goal of \$59 million. John B. Ogilvie '31S, M.D. '34 is Chairman of the Alumni Division of the campaign.

Progress Report December 31, 1987

GIFTS BY PURPOSE

Endowment

General Endowment	\$ 7,349,910
Professorships	11,872,654
Fellowships	5,895,523

SUBTOTAL	25,118,087
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Facilities

Molecular Medicine	\$20,100,000
Magnetic Resonance	3,077,000
Medical Library	8,015,000
Labs and Equipment	5,971,888

SUBTOTAL	37,163,888
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Programs and Research	77,953,525
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TOTAL	\$140,235,500
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GIFTS BY SOURCE

Corporations	\$28,723,535
Foundations	24,682,716
Individuals	56,524,047
Research and	30,305,202
Other Organizations	

TOTAL	\$140,235,500
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ALUMNI REPORT

Admissions. Dr. Robert Gifford, associate dean for student affairs, is continuing to provide personal interviews to all applicants to the school who are children of alumni. In other admissions news, this winter, Dean of Admissions Thomas Lentz has begun to solicit the help of the alumni in interviewing medical student candidates. Such help is particularly needed for students from faraway places, who often cannot afford the trip to New Haven for an interview. Alumni who would like to conduct such interviews should contact the alumni office.

Building "Class Consciousness."

For the first time, student class agents and officers have been appointed for each of the four medical classes. Dinner was shared with the class agents by Dr. Leonard Kemler, chairman of the fund, and Ms. Claire Lauterback, its director. We hope such social events will reinforce the students' continued participation in the association after they graduate.

The association plans to sponsor one of the school's monthly student teas this spring. We also hope that medical students will participate in the reunion weekend of June 10, 11. Students will be invited to conduct tours of the ever-changing medical campus, as well as to enjoy the social activities of the reunion weekend.

The alumni office participated in freshman orientation last September. We hope an expanded group of alumni will attend the freshman welcome party scheduled for September 1988.

Career Counseling. Students—especially women students—often query the alumni office to see if they can receive counseling regarding career choices. They sometimes ask if they could speak with alumni who practice in a particular specialty that the students are interested in.

Such encounters, however desirable, are difficult to schedule due to time constraints for both students and alum practitioners. To make this process easier, a committee is being organized which will include students and alums, with an emphasis on younger graduates. This group will suggest possible initiatives for the coming year.

Financial Aid. The issue commanding

most concern in our most recent alumni survey was the economic and emotional well-being of the current medical student. Reflecting an increasing concern over student need, Dean Rosenberg has earmarked for scholarships all unencumbered gifts to the Yale Medical School Alumni Fund that are available for current use.

For the year ended July 1, 1987, donations to the fund totalled a record \$615,000, of which \$235,000 went to scholarships. Gifts to the Medical School Alumni Fund have risen approximately \$100,000 annually during the past two years, and must continue to increase if Yale is to stay competitive with other leading medical schools in providing financial aid.

An article highlighting the increasing stress provoked by current student indebtedness is featured in this issue of *YALE MEDICINE*. Though it should be emphasized that loan defaults are less than 1 percent at Yale Medical School, many students fear that at current rates of interest, loan indebtedness is becoming insupportable.

Because of the current federal deficit, there is only a slim hope that programs for loan forgiveness will be developed at this level. Thus, our association may find its primary and most compelling mission as that of student advocacy in the financial arena: We should develop new mechanisms for scholarship support, with counsel and assistance from the office of student affairs. For example, a class reunion gift might be dedicated to "adopting a needy student," or selecting the "Class of 19xx Scholar."

House Staff/Fellows—Alumni Status in AYAM. The 1985 survey produced many inquiries concerning the alumni status of residents and fellows who had not received Yale degrees. While not considered alumni by the University, they are members of the Association of Yale Alumni in Medicine according to its by-laws. As such, former house staff and fellows are entitled to receive *YALE MEDICINE* and AYAM literature and correspondence. My office receives several calls every year from such members concerning this issue. Many display an intense loyalty for, and a close identity with, Yale for the specialty training they received here.

Alumni records have long been deficient in recording past house staff and fellows because department directors regularly

fail to register these physicians at the completion of their training. A subcommittee chaired by Dr. John Forrest of the department of medicine met with representatives from each of the major clinical departments to discuss this problem.

As a result of this effort, communication was reestablished with 471 former house staff and fellows, who were extended an invitation to join the association. The committee will now consider scheduling departmental reunions, which are often arranged informally at specialty society meetings distant from New Haven.

Perhaps such reunions could be set up on a regular basis to coincide with the spring medical school reunion, as currently occurs with surgery, orthopaedics and ophthalmology. As members of AYAM, all house staff and fellows should be warmly greeted upon their initial arrival on campus, and their rights and privileges in the organization made clear.

The appointment of many new department chairmen should provide the opportunity for departmental fund raising efforts to aid defined projects relevant to the chairman's needs. This could be done with the help of the development office, with both the resident/fellow and department receiving credit. The constant need by both the school and chairmen for unrestricted funds is ever present, and should be directed through the efforts of the Yale Medical School Alumni Fund, for many years supervised and assisted by Samuel Kushlan, M.D., '35.

The opportunities described present "unfinished business" of this subcommittee and under the leadership of Dr. Forrest should be further addressed in 1988.

A final note in closing. We are receiving a good response from alumni who are returning their tear-out cards from *YALE MEDICINE*, complete with news of their whereabouts and activities. Items of personal news will be listed in the medical school column in the Yale alumni magazine, while professional news will appear in *YALE MEDICINE*.

Keep those cards and letters coming.

Nicholas P.R. Spinelli, M.D. '44
Director of Alumni Affairs

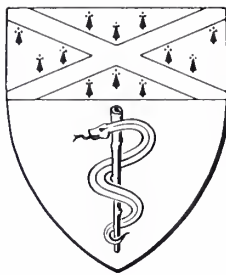
ALUMNI FUND NOTES

Recent Gifts

Each year, thousands of School of Medicine alumni and friends give to the alumni fund to provide support essential to the school's educational strength. Each gift is important, helping to underwrite operating costs while expressing the generosity of the many individuals who believe in the school's mission. Each has been gratefully received. The following examples represent the commitment and generosity of those who continue to offer that support.

The Robert and Jane Frelick Charitable Trust

Dr. Robert Frelick and his wife, Mrs. Jane Frelick, received their degrees from Yale in 1944: Dr. Frelick from the medical school and Mrs. Frelick from the nursing school. To support both schools and to make gifts to their grandchildren, the Frelicks recently established a charitable trust. This trust will pay incomes to their grandchildren for the next 15 years. At the end of that time, the assets of the trust will be equally divided between the Class of 1944 alumni fund endowments of both the medical and nursing Schools. This gift arrangement will entitle the Frelicks to a substantial income tax charitable deduction and other tax benefits, and it will enable them to achieve two goals with the same asset: a substantial gift to their grandchildren and a generous contribution to the medical and nursing Schools.



The Thomas H. Drews And Mary Jones Drews Scholarship Fund

John A. Drews, a member of the Class of 1967, recently established a scholarship fund in honor of his parents. He did so by purchasing a life insurance policy that will deliver substantial proceeds to the school. In making his gift, Dr. Drews commented: "My parents have provided me with enormous financial and emotional support throughout my educational career, and this gift seeks to acknowledge this support and to express my gratitude for it."

Income For Life

You can make a gift and in return receive a lifetime income and an income tax deduction as well as other tax benefits.

- An 80-year-old can contribute \$10,000 and receive a guaranteed life time income of \$900 a year, as well as an income tax deduction of nearly \$6,000.
- A 70-year-old can contribute \$10,000 and receive about \$600 in income in the first year, with income increases of approximately 5 percent in each succeeding year as well as a tax deduction of \$4,800.
- A 60-year-old can contribute \$10,000 this year, receive an immediate income tax deduction of \$7,750 and, starting in 10 years at his 70th birthday, receive \$1,160 a year for life.

Please call (203) 432-5855 collect for further information.

The J. Roswell Gallagher Endowment Fund

Dr. J. Roswell Gallagher, '25, '30 M.D., is a long-standing chairman of the medical school alumni fund endowment program, and he has provided important support to both his Yale College and medical school classes with a series of life-income gifts, beginning in 1976. Each gift has entitled him to significant tax benefits, as well as to a life-income for both himself and Mrs. Gallagher. These gifts will be combined at a future date to establish the J. Roswell Gallagher Scholarship.

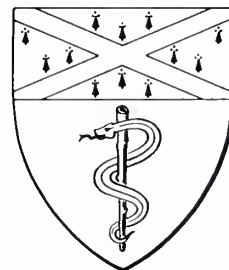
About the life-income gift option, Dr. Gallagher has commented: "I have been very pleased with the results of my gift arrangements with Yale. The tax and income benefits from a life-income plan are considerable, and they offer alumni the opportunity to make significant contributions at a very reduced cost. I heartily endorse this program and urge all alumni to participate."

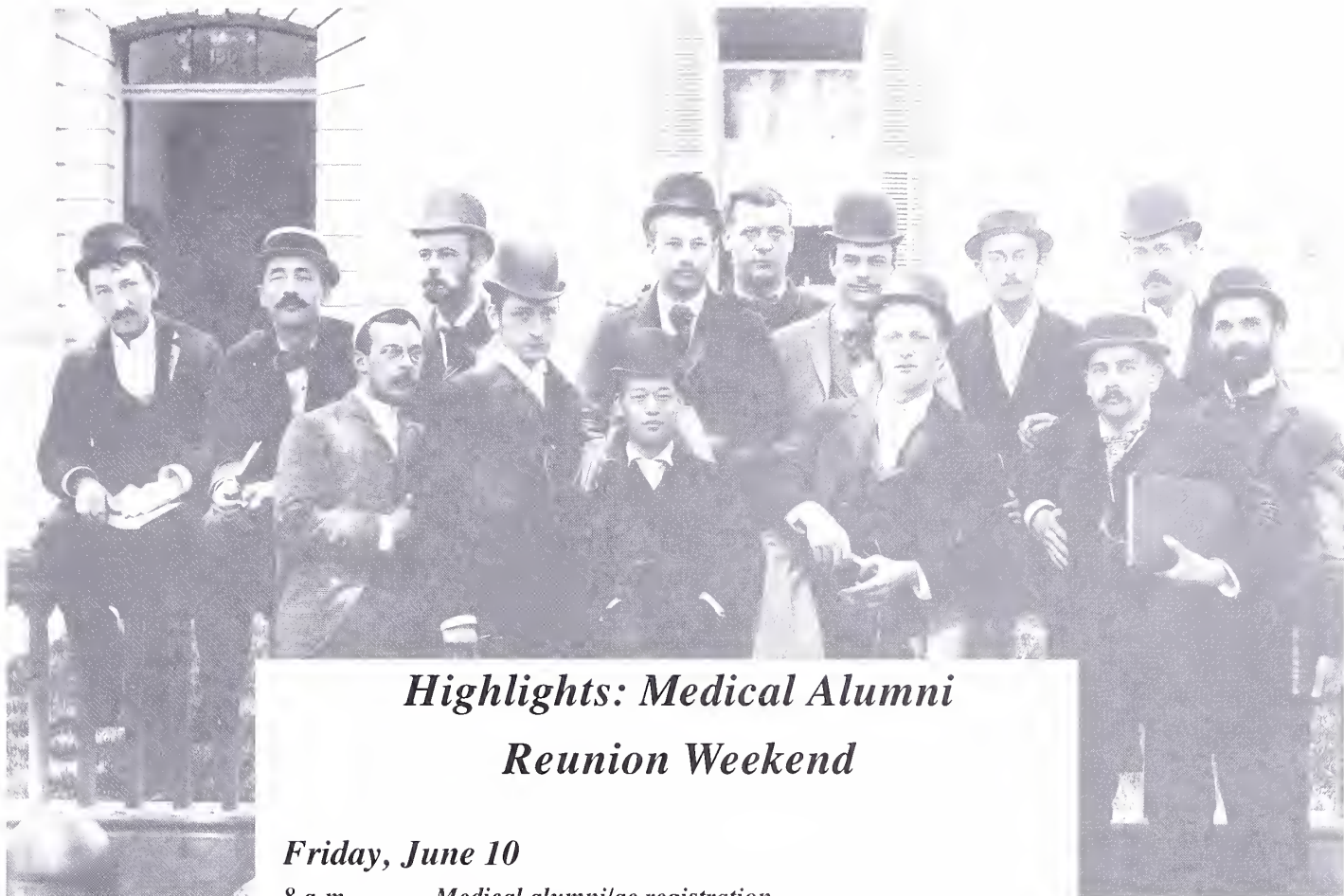
Why Send a Small Gift?

Some alumni of the School of Medicine are reluctant to send along small gifts to the alumni fund, because such donations might appear inconsequential next to the gifts of thousands or even millions of dollars that the school receives. What these alumni may not know is that even a modest gift helps the School of Medicine solicit large contributions from sources that look to the percentage of alumni giving in deciding whether or not to support the school.

Hence, no matter how large or small, your gift to the Yale Medical School Alumni Fund goes to work for your alma mater.

The Yale Medical School Alumni Fund
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Highlights: Medical Alumni Reunion Weekend

Friday, June 10

- 8 a.m.*** Medical alumnulae registration
 - 1:30 p.m.*** Class reunion seminars
 - 4 p.m.*** Special address: Robert G. Petersdorf, M.D. '52,
President, Association of American Medical Colleges
 - 5 p.m.*** Dean's reception
 - 7 p.m.*** Medical alumnulae reunion dinner
-

- 8 a.m.*** Nursing alumnulae registration
 - 9 a.m.*** Keynote address: Ada Sue Hinshaw, M.S.N. '63, Ph.D.,
R.N., F.A.A.N., Director, National Center for Nursing
Research
 - Noon*** Luncheon and special address
 - 2:45 p.m.*** Faculty presentation
 - 6:30 p.m.*** Social hour and dinner
-

- 8 a.m.*** Hospital administration alumni association (YUHAAA)
and EPH alumnulae registration
 - 9 a.m.*** Alumnulae workshops
 - Noon*** YUHAAA business meeting
 - 1 p.m.*** Alumnulae workshops
-

Saturday, June 11

- 9:15*** Medical faculty seminars
- 10:30*** Medical alumnulae reunion seminar
- 11:45*** AYA in Medicine annual meeting

All medical graduates are welcome to attend reunion weekend. Reunion festivities will be held for classes ending in the years "3" or "8".

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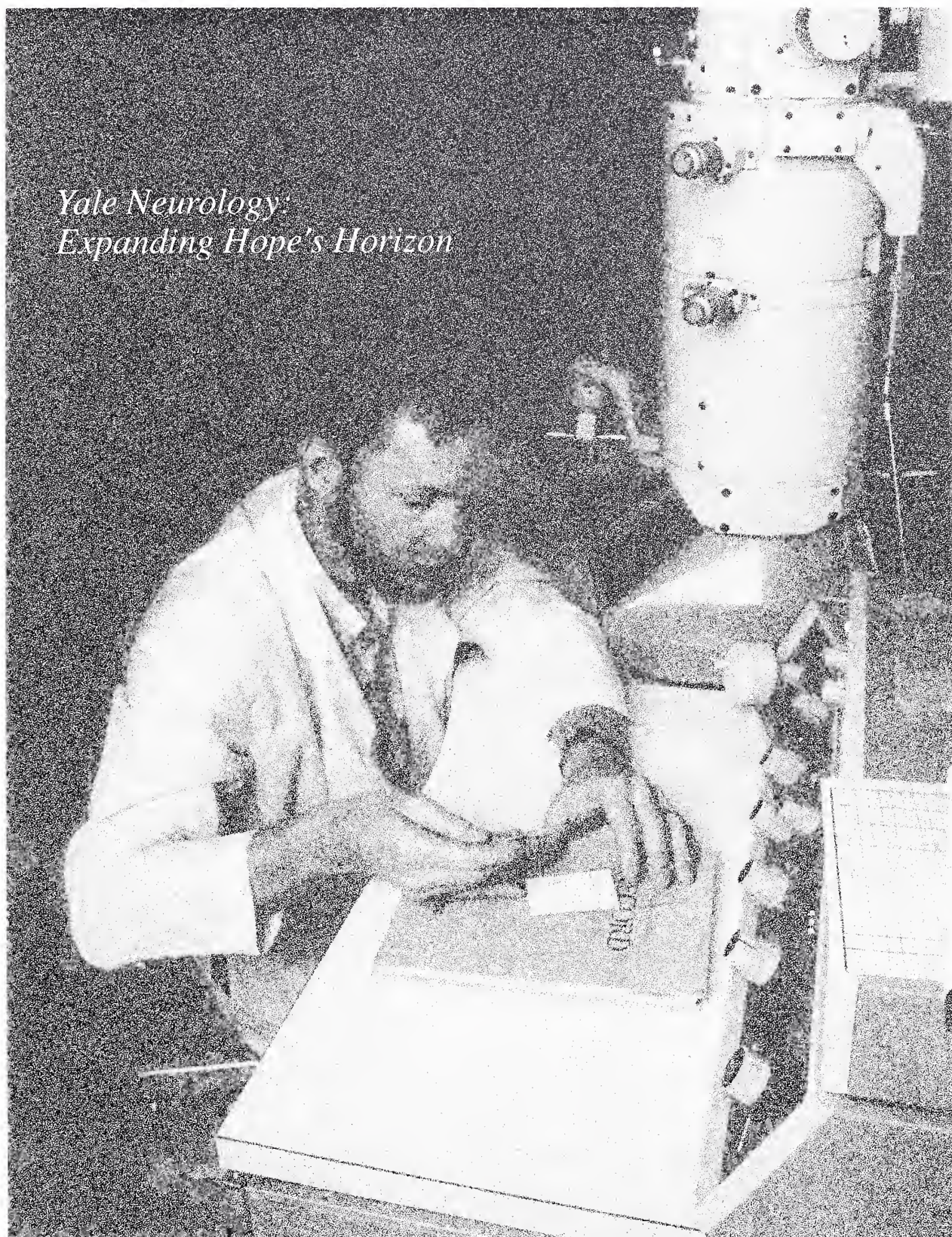
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YALE MEDICINE

Alumni Bulletin of the School of Medicine

Summer 1988

*Yale Neurology:
Expanding Hope's Horizon*



YALE MEDICINE

Alumni Bulletin of the School of Medicine
Summer 1988; Volume 22, Number 3

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Dr. Michael Kashgarian, professor of pathology, is editor of YALE MEDICINE. The magazine is produced by him and the Office of Public Information: Helaine Patterson, director; Gregory Huth, publications editor; and Leah D'Eugenio, senior administrative assistant. The tri-annual magazine is prepared in cooperation with the Alumni and Development offices at the School of Medicine, with assistance from Victoria Chave, layout and production.

The cover features Joel Black, Ph.D., assistant professor of neurology, preparing a "freeze-fracture" slide for electron microscopy. The technique is helping Yale medical scientists further their quest to understand nerve function. Photo credit: James Anderson.

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CONFRONTING ARMAGEDDON

"Nuclear war cannot be won and must never be fought." President Ronald Reagan, in a letter to the International Physicians for the Prevention of Nuclear War (IPPNW), Spring 1983

"The physicians have really done a great thing; you have convinced the Soviet military that they cannot win a nuclear war." State Department official, Washington, 1984

"If we all agree, and all these heads of state and the Pope say we are correct—I mean, if everything's so good, why is everything so bad?" Georgii Arbatov, leading Soviet expert on the United States, addressing an IPPNW Congress, 1983

IPPNW



IPPNW co-presidents Lown, an American, and Chazov, a Soviet, conduct a press conference before the Nobel Prize ceremonies in Oslo in December 1985. The author, Dr. John Pastore, is at the far right.

by Dr. John O. Pastore '67

Academician Arbatov's melancholy observation, an echo of sentiments from the American side, captures the essence of the physicians' movement against the nuclear arms race.

The United States and the Soviet Union have recently concluded, and their leaders have signed, the first treaty that will result in dismantling a whole class of nuclear weapons. Before the treaty's ink was dry, it was assumed that the Intermediate Nuclear Force (INF) accord would be ratified in the U.S. Senate without effective opposition and its stringent verification measures would render the treaty virtually impossible to violate without detection.

From the American standpoint, and particularly for President Ronald Reagan, the asymmetry of the treaty—with

four times as many Soviet as U.S. missiles being dismantled—represents a great triumph. The INF treaty will probably ensure that the Republican Party will emerge from its convention in New Orleans this summer claiming effective management of the Russians and their dynamic leader Mikhail Gorbachev. In fact, so impressive is the President's

Dr. John Pastore, a cardiologist at St. Elizabeth's Hospital of Boston and associate professor of medicine at Tufts University School of Medicine, graduated from the Yale School of Medicine in 1967. Since 1984 he has been the secretary of International Physicians for the Prevention of Nuclear War.

achievement in purely political terms that as of this spring, Democratic contenders for the presidential nomination had barely mentioned the nuclear arms race.

Yet, no matter how exciting or politically effective, the INF agreement is little more than a symbolic first step on the road to nuclear disarmament. Consider that less than 4 percent of the world's nuclear weapons will be removed as a result of the agreement. No nuclear weapons capable of reaching the United States will be dismantled. And the agreement leaves in place the system of nuclear blackmail we euphemistically call "deterrence." Maybe that's what Arbatov meant: Though we have attended to a single symptom, the disease festers at a much deeper level.

It's possible that before the end of the Reagan presidency a major arms control achievement—a 50 percent reduction in superpower stockpiles—will become a reality. Conventional wisdom has it that the Soviets want the reductions just as much as those Americans who care for Reagan's place in history. It seems that only the intransigence of the American right (sensing betrayal by a lame duck president once their stalwart) or the impenetrable vagaries of Soviet domestic politics could forestall a 50 percent reduction.

Certainly, you say, such a reduction would satisfy, at least temporarily, the "peaceniks," including the physicians internationally clamoring for nuclear disarmament. But the answer is an emphatic no, as anyone familiar with the history of International Physicians for the Prevention of Nuclear War (IPPNW) would surmise. Perhaps I can explain.

WHERE WE HAVE BEEN

In the early 1960s, a small band of physicians played a key role in the passage of the Limited Test Ban Treaty that ended atmospheric nuclear test explosions by the United States and the Soviet Union. Concerned mothers in the American Midwest and the doctors demonstrated that Strontium 90, a radioactive isotope liberated into the atmosphere during nuclear testing, behaved biologically like calcium—collecting in the deciduous teeth of babies because it was in the milk from cows that grazed on grasses containing the isotope.

The resulting public outrage helped the Kennedy administration achieve the atmospheric test ban, signed in 1963. With this success, Physicians for Social Responsibility (PSR) was off and running. Movement leaders published articles in prestigious medical journals extrapolating about the effects of nuclear explosions over major American cities, and proclaimed in churches, universities and town meeting halls that nuclear war could not be survived.

Thus was born the so-called "bombing run," a one-hour lecture on the effects of a megaton blast over Boston, New York or San Francisco. People listened, and some were energized to act, but an escalating war in Southeast Asia, along with the civil rights issue, soon dominated the agenda of social concern. Husbands, sons and brothers were dying in Vietnam, even as "freedom riders" perished here at home. PSR members continued to publish in scholarly medical periodicals, but the most important outlets—the mass media in the United States—were focusing on other issues.

Meanwhile, underground nuclear test explosions continued at the annual rate of approximately 30 in the United States and 20 in the Soviet Union. But the principle of "out of sight, out of mind" held true; few noticed what was happening. The limited test ban had created the illusion that the nuclear arms race had been slowed, if not stopped, and public outrage was quelled because the atmosphere was no longer being contaminated. A new generation took office in the U.S.

Congress—people who had never witnessed the frightening power of a nuclear blast.

In a tit-for-tat "policy," the nuclear superpowers engaged in an open-ended arms race, with atomic weapons on each side soon reaching the tens of thousands. Many missiles packed the firepower of 80 or 100 Hiroshimas. Deadly accuracy was "improved," and the possibility of a disabling first strike by one's enemy became the defense planner's nightmare.

A TURNING POINT

In 1978, shortly after the Three Mile Island nuclear reactor accident in Pennsylvania, a small group of Boston doctors, including Helen Caldicott, Eric Chivian and Ira Helfand, revived the dormant Physicians for Social Responsibility. At first the organization was concerned with both nuclear power and weapons, but its leaders soon decided to focus solely on nuclear weapons—an approach that has continued in the succeeding 10 years.

In late 1979 and early 1980, another group of Boston doctors, members of the rejuvenated PSR, joined with prominent leaders in Soviet medicine to found an international organization against the nuclear arms race. Six of them—three Soviets and three Americans—met in the restaurant of a Geneva hotel and, during a dramatic and sometimes tumultuous weekend, hammered out the principles that would guide this risky new endeavor.

The Americans—Bernard Lown, James Muller and Eric Chivian—and the Soviets—Evgueni Chazov, Leonid Ilyin and Mikhail Kuzin—agreed that heading off a nuclear conflict would be the single agenda item of the International Physicians for the Prevention of Nuclear War. Through IPPNW, physicians from around the world would demonstrate their professional commitment to protect life and preserve health. Moreover, the organization would be neutral and disseminate the same information about nuclear war to all nations.

On the American side, many prominent physicians played an important role in the formative months, including Herbert Abrams, Helen Caldicott, David Greer and Howard Hiatt. Bernard Lown's living room in Newton, Mass., was the scene for many lively evenings as IPPNW went through a neonatal period in the early 1980s.

The wisdom of focusing on the nuclear arms race became apparent as disparate political philosophies and attitudes toward the Soviet Union surfaced within the group. But to paraphrase Samuel Johnson, "There is nothing like the threat of nuclear annihilation to concentrate the mind," and there were no substantive disagreements on that score.

A MEETING OF MINDS

Perhaps more importantly, the Soviet physicians agreed with us not only on general principles, but also on details and strategy. Many times a plan would be hatched in the Lown living room, completely American in formulation, and we would telex or phone the details to Dr. Chazov in Moscow. If the matter were especially important, the next day the Russians often would notify us simply that they agreed! For those of us nurtured on cold war platitudes about the Soviets, it took a while to get used to this challenge to our preconceptions.

It bears emphasizing that this international unanimity was manifest only on our single-issue official agenda. Many of us continued to engage our new Soviet colleagues (and yes,

friends) in heated private discussions on other matters, reflecting the differences between our two social and political systems.

Some in the West felt that we should "go public" with these disagreements—especially on human rights. My own experience has been that our effectiveness has come through quiet diplomacy rather than attempts to embarrass our Soviet colleagues. Several Soviet emigres now living in the West bear witness to the success of that approach.

Beginning in 1981, the main event on the IPPNW annual calendar has been its international congress. The first, held near Washington, D.C., attracted 70 doctors from 12 countries.

IPPNW growth has been dramatic since that first international meeting. The seventh congress, which took place in Moscow in June 1987, attracted more than 2,600 delegates representing more than 60 countries. Fifty-five of those nations are now official affiliates of IPPNW.

Physicians for Social Responsibility, the U.S. affiliate of IPPNW, has enrolled more than 40,000 physicians and medical students, and another 10,000 health care workers, including nurses, who also have their own autonomous Nurses Alliance.



WIDE WORLD

EYES ON THE PRIZE

The greatest boon to the international physicians movement undoubtedly came in 1985, when IPPNW was awarded the Nobel Peace Prize. The Nobel Committee cited the federation's "considerable service to mankind by spreading authoritative information and by creating an awareness of the catastrophic consequences of atomic warfare."

Perhaps for the first time, IPPNW came to be regarded as a threat by those espousing a contrary view of the nuclear arms race, whose rationale spans a spectrum from "Nuclear weapons have guaranteed the peace" to "Why not spend the Russians into submission." Thus, controversy attended the peace prize.

Its nominal focus was the human rights orientation of the Soviet Dr. Chazov, who by then had served alongside Dr. Lown as a co-president of the federation for five years. Dr. Chazov held that office without any aspersions on his character. In fact, among the emigre community in the Boston area, Dr. Chazov was highly regarded as a cardiologist, although one with close ties to the Soviet leadership. He was reputed to be the private cardiologist of Leonid Brezhnev and his successors.

Almost as soon as the IPPNW's Nobel Peace Prize was announced, however, the media in the Federal Republic of Germany brandished a letter co-signed by Dr. Chazov and about 20 other scientists in the early 1970s. The letter criticized Andrei Sakharov, the dissident Soviet physicist who was later exiled to Gorky. Those opposed to Soviet-American rapprochement seized upon the incident with glee.

Regardless of one's attitude toward the Russians, Dr. Chazov or Sakharov, the controversy was a source of pain for those of us who struggled through it. My own view is that the Nobel Prize was awarded to a worldwide federation in more than 50 countries, and not to any individual. Dr. Chazov had to speak for himself on the Sakharov affair, that predated his work with us by nearly 10 years. The work itself was not only beyond reproach but a service to humanity.

In December 1985, the media's attention was abruptly redirected by a propitious development. At the Nobel Prize press conference in Oslo, a Soviet journalist collapsed in view of the world as these contentious issues were being hurled at us by the assembled reporters.

That evening millions of television viewers worldwide saw on the news an international group of physicians, including Soviet and American cardiologists, leap to the aid of Lev Novikov, who had just become a victim of sudden cardiac death. As an example of international cooperation, the moment was poetic; a few skeptics even suggested that IPPNW had staged the rescue. Happily, Novikov survived and now speaks occasionally on behalf of IPPNW.

PEACEFUL PROLIFERATION

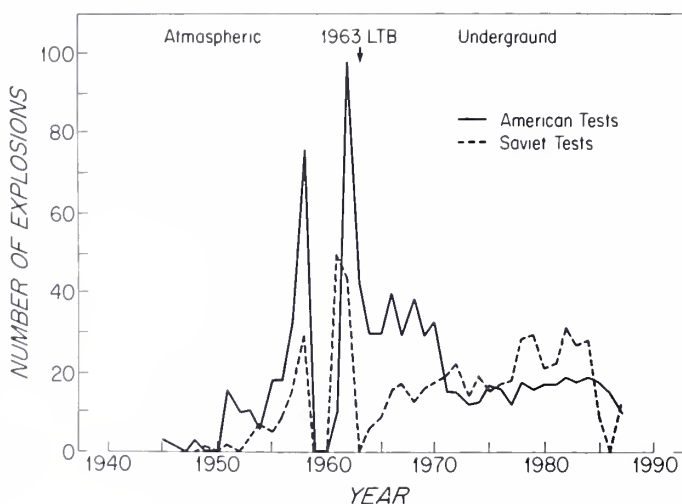
The incident catapulted the physicians movement into the spotlight. It did not stifle our critics, of course, but it certainly reinforced our credentials as doctors. The dramatic and successful resuscitation of Mr. Novikov did not hurt recruiting, either.

(At left) Drs. Chazov (white shirt) and Lown (in vest) use closed chest massage to revive a Soviet journalist at the 1985 Nobel press conference. Dr. Pastore, in the foreground, monitors the patient's pulse.

IPPNW now represents 175,000 physicians in 55 countries. It is the fastest growing medical organization in the world and the only one with a co-presidency shared by an American and a Soviet. Our current vice presidents are from Sweden, Hungary, Argentina, Australia and Canada.

The International Council, the governing body for the federation, is comprised of councilors from each of our 55 affiliates. The People's Republic of China is the only nuclear weapons state not officially represented on the council, but prominent Chinese physicians have attended as active observers at each of the last three world congresses. The future of our organization is limited only by finances; imagination and daring have never been a problem.

For instance, IPPNW played an important role in getting the Soviet Union to institute a unilateral 18-month moratorium on nuclear test explosions from August 1985 to January 1987. The Soviets initially resisted our arguments that they stop nuclear testing. They felt that the United States would not halt its own test explosion program and that few in the West would be made aware that the Soviet side had indeed done so.



Nuclear test explosions by the superpowers continue. (Courtesy: Union of Concerned Scientists.)

The Soviets were partially right. The United States did not join the nuclear explosions moratorium, despite the active advocacy of the Western anti-nuclear movement. On the other hand, the Soviets' willingness to stop test explosions was highlighted and the comprehensive test issue ban was rejuvenated before a wide Western audience.

IPPNW has launched CEASE FIRE '88, a concerted effort to gain worldwide support for a comprehensive test ban treaty. Our affiliates around the world are protesting each U.S. or Soviet nuclear test explosion—not only with letters and telegrams, but also by seeking meetings with the ambassadors from the offending superpower resident in the affiliate country. We are giving it our best shot.

Together with our American affiliate, PSR, we shall continue to bring Soviet physicians to the United States and send our doctors to the Soviet Union. The anti-nuclear message is the same on both sides.

An independent corporation, SatelLife, has been formed to launch, with the cooperation of Soviet space scientists, a communications satellite for medical purposes. SatelLife will disseminate health information to developing countries, and address the educational and communication needs of their health care deliverers.

IPPNW has long maintained that the heavens should be used to lift humanity's spirits and improve health worldwide. We are not simply against weapons in space. We advocate using space to elevate humanity to a new plane of international cooperation.

WHERE WE ARE GOING

Since Hiroshima and Nagasaki, physicians have realized that upwards of 80 percent of all medical personnel would be killed outright in the event of a nuclear war—and the survivors would function more as patients than doctors. Once the Nagasaki weapon demolished that city's Medical University—immediately killing 90 percent of those inside and destroying all supplies—we had all the evidence we needed about the physicians' role regarding nuclear war. The only cure is prevention.

There are still pockets of hard core nuclear war strategists in the militaries of the United States and the Soviet Union. But thanks in large part to the physicians, it is no longer considered intelligent to speak of nuclear war as "winnable." So in large measure, our first battle has been won.

But much more needs to be done. The world still bristles with 55,000 nuclear weapons—more than 95 percent of which are in the hands of the United States and the Soviet Union. Even after dismantling medium and some short-range missiles in Europe following ratification of the INF accord, there will still be more than 50,000 instruments of genocide on our small planet, with a combined firepower of one million Hiroshimas.

Beginning last year, the International Physicians for the Prevention of Nuclear War has espoused the goal of eliminating all nuclear weapons. Our physicians are not arms controllers. The career arms controller objects to abolition on the grounds that nuclear weapons cannot be "disinvented." We agree that knowledge, scientific or general, cannot be eradicated; but the use of that knowledge is controllable. The real problem is that nuclear weapons have become an integral part of the defense postures of the United States and the Soviet Union.

However, it is naive and delusional to believe that humanity and nuclear weapons can coexist indefinitely. We must learn to defend ourselves without nuclear weapons, because their use would terminate civilization as we know it.

We also are continuing our grassroots educational efforts. At the urging of the World Health Organization, IPPNW is preparing a curriculum on the medical effects of nuclear war and the nuclear arms race that medical schools around the world can use. It is distressing that few medical schools teach about what many experts have called humanity's most important public health problem.

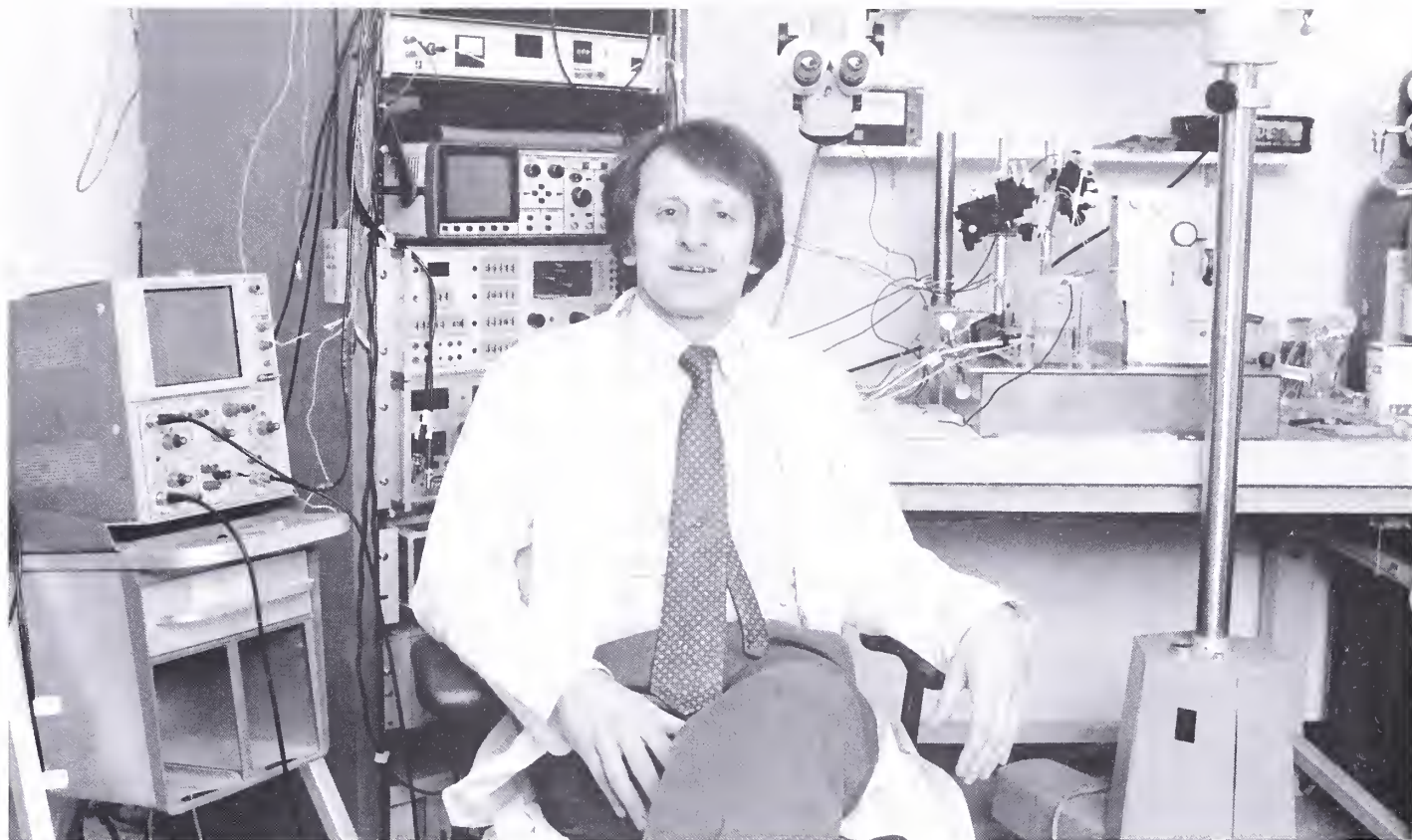
Considering the many Yale medical academicians who provided leadership to the Atomic Bomb Casualty Commission in Hiroshima and Nagasaki, it would be appropriate that our own medical school play a larger role in developing and using this important curriculum.

Anyone interested in attending the 1989 IPPNW congress in Hiroshima—and all are invited—should contact a local chapter of Physicians for Social Responsibility.

When that next congress meets, the Albert Einstein quote on the IPPNW letterhead will seem even more immediate: "We shall require a substantially new manner of thinking if mankind is to survive." But it will take more than thinking; it will take all the optimism and work physicians and their patients can muster.

We think the future is worth it. **YM**

YALE NEUROLOGY: EXPANDING HOPE'S HORIZON



Dr. Stephen Waxman in his new laboratory.

PHOTOS BY JAMES ANDERSON

by Nancy Pappas

Few injuries or diseases are more devastating than those that affect the central nervous system. Some 300,000 Americans have been left quadriplegic or paraplegic by spinal cord injuries. Their numbers increase by some 14,000 each year. Another 250,000 suffer from multiple sclerosis, with its unpredictable course of neurologic disability caused by the demyelination of nerve fibers.

Moreover, these conditions disproportionately affect young people in the prime of their family- and career-building years. This enormous human toll has stimulated considerable scientific research—but frustratingly little progress toward effective treatments or cures.

Stephen G. Waxman, M.D., Ph.D., professor of neurology and chairman of the School of Medicine's neurology department since 1986, is determined to change all that. Observes Dr. Waxman, who is also chief of neurology at Yale-New Haven Hospital and a staff physician in neurology at the VA Medical Center in West Haven, "The traditional picture is that if something happens to the central nervous system, there's no recovery. Recently, it's become clear that the picture may not have to be so pessimistic."

Dr. Waxman and his colleagues are collaborating on a series of research efforts designed to illuminate the basic mechanisms of central nervous system development, function, injury and recovery. Working in a new, custom-designed research facility built by Yale on the grounds of the Veterans Administration Medical Center, the group is attacking these problems with a combination of state-of-the-art research techniques.

"We're doing basic science," emphasizes Jeffery Kocsis, Ph.D., associate professor of neurology. "We can't promise to make wheelchair patients walk. But that's in the back of our minds."

NEW RESEARCH CENTER

An intense, confident man, Dr. Waxman describes the evolution of this new research center. It all began, he explains, when Dr. Leon E. Rosenberg, dean of the medical school, recruited him from Stanford University School of Medicine to

Nancy Pappas is a free-lance medical writer.

lead Yale's neurology department.

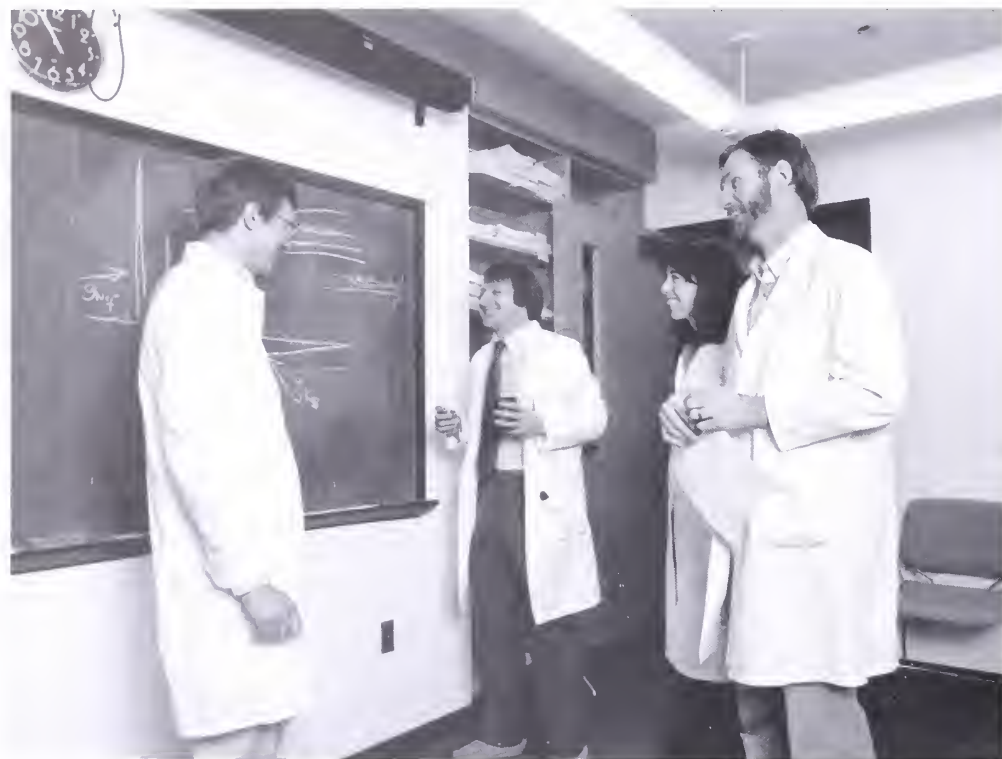
Dr. Waxman had already earned widespread recognition for his work on neural regeneration and on the molecular neurobiology of myelinated nerve fibers. He had assembled a first-rate group of collaborators, several of whom have since joined the Yale faculty.

In the process of moving his research operations from Stanford to Yale, Dr. Waxman recalls, he began to dream aloud about the ideal research facility. It would, he said, be designed to embrace the kind of intellectual and practical collaboration that had already developed within the group.

schools," Kocsis notes. "People get scattered all over the place, and it's hard to get together. Here, we're right across the hall from each other."

The center currently houses Drs. Waxman, Kocsis and two other senior members of the research team, Beth Friedman, Ph.D., and Joel A. Black, Ph.D., both assistant professors of neurology. Each collaborator leads one of the center's four primary laboratories, where research is carried out by teams comprising graduate students, postdoctoral fellows and laboratory assistants.

At least once a week, the four investigators meet formally



Dr. Waxman encourages informal meetings among his team's members. Here he shares a lighter moment with Jeffery Kocsis (left), Beth Friedman and Joel Black.

"Finally, I said to Lee Rosenberg, 'Why don't you build us a research center?' And he did it!" Waxman recalls.

Open since early 1988 and dedicated in May, the center is housed in a single-story brick building on the campus of the VA Medical Center. In keeping with its close ties with the medical school, the VA made the land available to Yale on a long-term lease.

"We're happy to be at the VA because they have a longstanding interest in diseases of the CNS," Dr. Waxman says, speaking as the center's director.

A major source of funds for the new building and program—\$1.5 million—came from the Paralyzed Veterans of America and one of its chapters, the Eastern Paralyzed Veterans Association. In recognition of the groups' support, the center has been named the PVA/EPVA Center for Neuroscience and Regeneration Research of Yale University.

Showing visitors around the new, H-shaped building, Jeffery Kocsis, the center's associate director, talks of the rare privilege of being able to design a scientific research facility from scratch. Every principal investigator has been given plenty of room for equipment and staff, and the floor plan has been laid out to encourage easy contact between the various research teams housed there.

"This is not as common as one might imagine in medical

to discuss the progress of their work and search for ways to enhance each other's efforts. Dr. Waxman likes his researchers to collaborate informally, as well. Blackboards hang in the hallways to encourage spur-of-the-moment discussions.

The center's research activities flow in many directions, but all, Dr. Waxman says, with a common goal: "Our projects are variations on the theme of functional recovery after damage to the central nervous system. What are the mechanisms surrounding it? How can we encourage it? We hope our basic research will throw some light on these issues."

PURSUING THE DREAM

To the public, recovery from neurological disease or injury seems synonymous with regeneration of nervous tissue. But Dr. Waxman points out that in many such disorders "though there's not a reconstitution of structure, we get recovery of function." Limbs paralyzed or eyes blinded by multiple sclerosis can start working again, even though the myelin insulation is still stripped from the nerves. Stroke victims may regain their speech or powers of movement, even though their brain tissue remains damaged.

continued on page 9

The Platinum Portraits of Freeze-Fracture

Critical to Yale's research into spinal cord injury and multiple sclerosis is the ability to inspect the membranes of nerve fibers in the finest possible detail—down to individual ion channels and protein receptors.

That is where Joel Black, Ph.D., comes in. An assistant professor of neurology, he is a specialist in an esoteric—but extremely useful—electron microscopy technique called freeze-fracture. This technique produces detailed platinum castings of split membranes that produce minutely detailed electron micrographs.

"Joel is one of the people at the forefront of applying this technique to the central nervous system," notes Dr. Stephen G. Waxman, professor and chairman of the department of neurology.

Black demonstrates the technique in his new laboratory at the PVA/EPVA Center for Neuroscience and Regeneration Research of Yale University, which features a \$120,000 freeze-fracture machine.

Freeze-fracture, he explains, is like hitting a block of ice with a hard, sharp object, only on a minute scale. The researcher begins by putting tiny bits of nerve tissue—in this instance, from the optic nerves of laboratory rats—on confetti-sized gold-and-copper mounts, then flash-freezing these in a vat of liquid nitrogen.

Then he sets the frozen mounts on a bottle cap-sized "table," and inserts the whole assembly into the supercooled vacuum chamber of his freeze-fracture machine.

Here a sharp blade slashes forward, breaking the nerve tissue apart. "The fracture follows the pathway of least resistance," Black explains. In most cases, the tissue fractures between the two layers of lipid molecules that make up the cell membrane. When the fracture plane reaches a protein penetrating this double layer, it tends to go over or under the protein—leaving it intact for study—rather than splitting it.

"I have no control over the fracture plane. It's just a random event," Black explains. Nevertheless, about 90 percent of the fractures produce usable images.

Next, Black directs a fine platinum vapor at the exposed membrane face, in effect spray-painting it with a thin layer of metal only several molecules thick. Then he layers carbon over the platinum to stabilize it (the carbon, transparent to electrons, will not show up on the electron micrograph). Finally, he uses chemicals to digest away the nerve tissue itself.

What's left is a perfectly detailed casting of the nerve membrane that is totally impervious to electrons, and therefore completely visible to the electron microscope.

Next comes an even greater challenge. "The difficult part of the technique is interpreting the micrographs, because the image you get is so different than conventional thin-section microscopy," Black says. "You're looking at vast amounts of membrane instead of the customary thin cross-section."

Black points out that by using freeze-fracture to look at large areas of membrane, he can see the spatial organization of proteins within the membrane.

Having mastered this demanding technique, Black is now trying to extend its utility. "The drawback of conventional freeze-fracture is that if you look at a particle, you can't tell anything about its composition. Is it a glycoprotein, a lipoprotein? We don't know."

Black is working with a colleague, Beth Friedman, Ph.D.,



A freeze-fracture electron micrograph taken by Joel Black shows a myelinated axon magnified 50,000 times. (A) The node of Ranvier, site of action potential propagation, is bounded top and bottom by paranodal axon membranes (B), which have a scalloped appearance due to constriction by overlying oligodendrocyte processes. Numerous intramembranous proteins are apparent within the nodal membrane.

assistant professor of neurology, who specializes in the use of antibodies in research, to combine their two disciplines to overcome this problem. They hope to find an antibody that will stick to specific membrane proteins, and in turn tag this signal antibody with yet another antibody whose tail sports a trace of electron-dense colloidal gold. Under the electron microscope, these tagged proteins should stand out like so many push-pins, giving the researchers valuable information about the identity and distribution of various proteins.

Notes Black:

"Once we work out this technique, it will have wide-ranging possibilities for other investigations, since we will be able to tag specific molecules for study in the electron microscope."

The Emerging Option of Epilepsy Surgery

One of the traditional strengths of the neurology department is the treatment of epilepsy. "Epilepsy treatment and research are among the 'jewels in the crown' of this department. They are a major factor in our claim to leadership in the field of neurology," notes Dr. Stephen G. Waxman, chairman.

Surgery is beginning to play a more prominent role in relieving epileptic symptoms, for in spite of steady improvement in drug therapy, an estimated 30 percent of people with focal seizures—seizures that originate in a localized part of the brain—can't be helped by drugs.

For some of these individuals, a Yale neurology-neurosurgery team can offer a new lease on life through the removal of seizure-generating portions of the brain. The Yale team, one of just a handful around the country with expertise in this demanding treatment, receives referrals from all over the world.

"It's one of the most rewarding things I can think of in medicine—to be able to help people who have been devastated their whole lives," says Susan S. Spencer, M.D., associate professor of neurology. "Among ideal candidates, carefully selected, over 90 percent are able to have the surgery with minimal neurological deficit and with cure or near-cure."

years, is only just coming into its own as an established treatment for drug-resistant seizures. Dr. Susan Spencer estimates that as a result, as many as 300,000 people in the United States may need the surgery but are not getting it.

"It is becoming more popular because it really works," she observes. "It's gratifying to be able to treat a chronic disease and in many instances to cure it."

In the 15 years since the surgery program began, demand has increased to the point where the team is performing an average of two operations a week. "We have grown so busy it takes close to two years from the start of pre-operative evaluation to the finish of the surgery," Dr. Spencer says.

Many of the team's patients have been so disabled by seizures that they have been confined to their homes, unable to work or go to school. Successful surgery enables them to lead essentially normal lives.

The key to successful surgery, Dr. Spencer explains, is a careful pre-operative evaluation of patients.

"First we must establish that seizures are all arising from a small part of the brain, and that this tissue can be removed without causing a lot of neurological problems in the individual," she points out. "Those are a lot of 'ifs'."

"Sometimes the localization of the spot requires dangerous procedures such as placing electrodes deep in the brain. This carries a 2 percent risk of hemorrhage or infection," she notes.

"There are not that many centers capable of doing these kinds of evaluations," Dr. Spencer observes. "It really requires a team approach involving neurologists, neuro-



Dr. Susan Spencer tests the peripheral vision of a young patient whose epilepsy has been successfully managed with brain surgery.

Epilepsy research was begun at Yale in the 1950s by Gilbert H. Glaser, M.D., Sc.D., professor of neurology and former chairman of the department. In addition to Dr. Spencer, the team's neurologists include Dr. Richard H. Mattson, professor of neurology and director of medical studies in the neurology department, and Dr. Peter D. Williamson, associate professor of neurology. The team's neurosurgeon is Dr. Dennis D. Spencer, professor of neurosurgery, and Susan Spencer's husband.

Epilepsy surgery, although done occasionally for many

psychologists and neurosurgeons."

Precise localization of the epileptic focus enables the surgeon to remove only that part of the brain and no other, she explains, thus sparing as much normal tissue as possible.

In recent years, the team has been moving toward doing the surgery on younger and younger patients. "Most of our patients are young adults," Dr. Spencer points out. "But we are seeing more and more children. With any removal of brain tissue, if you do the surgery early in life the brain recovers and compensates better."

"We want to get at the principles of how nerve cells reorganize after injury—the whole issue of plasticity," Dr. Waxman explains.

Already Dr. Waxman and his colleagues have begun illuminating the question of remissions in multiple sclerosis. They expect that this work, which they began at Stanford, will be greatly enhanced by their move to Yale.

That is because the Yale faculty includes people like J. Murdoch Ritchie, Ph.D., Sc.D., Eugene Higgins Professor of Pharmacology and one of the world's experts on the physiology of the myelinated nerve fibers damaged in multiple sclerosis. In fact, Professor Ritchie and Dr. Waxman co-authored research reports before the latter moved to Yale.

Thanks to their newly combined forces, Dr. Waxman says, "in terms of understanding the physiology of multiple sclerosis, Yale is the best place in the world."

Dr. Waxman explains that normally, many fibers in the central nervous system are covered by a sheath of myelin, a lipid that acts as an electrical insulator. But the myelin does not coat the fiber continuously as electrical insulation covers a copper wire. At microscopic intervals the myelin sheath is absent, exposing the nerve surface underneath.

These unmyelinated segments, known as "nodes of Ranvier," make possible an extremely efficient means of electrical transmission known as saltatory—literally, jumping or leaping—conduction. In saltatory conduction, the electrical impulse generated at the nerve body does not move steadily down the fiber. Instead, the impulse builds at one node until it is strong enough to jump to the next.

This type of conduction is controlled by sodium and potassium channels, specialized protein molecules that penetrate the fiber membrane. Professors Ritchie and Waxman have demonstrated that the sodium channels on nerve fibers are densely clustered at each node of Ranvier. When stimulated by the arrival of an electrical pulse, the channels open to flood the fiber with positively charged sodium ions.

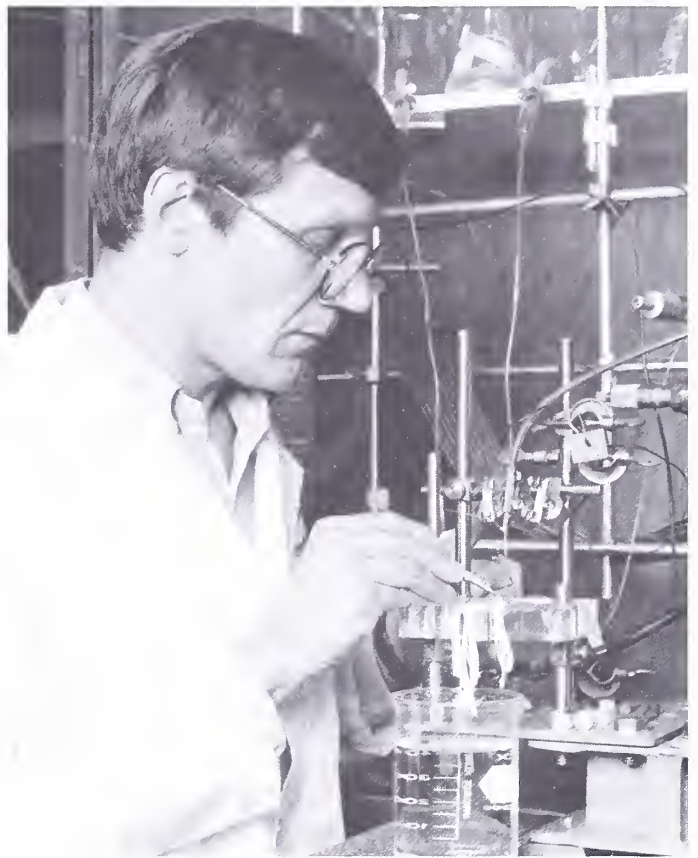
When the charge at the node builds to a critical point, the current begins "searching" for a place to go. It cannot simply travel continuously along the fiber because between the nodes, underneath the myelin sheath, there are few sodium channels. Moreover, the fiber is coated under the myelin with current-resisting potassium channels.

Nor can the current leak into the surrounding extracellular space; the insulating myelin blocks that route. That leaves the current only one means of progression: to leap to the next node, micrometers down the fiber.

When multiple sclerosis attacks and destroys myelin (presumably through some autoimmune process), this electrical system is disrupted. Instead of leaping from one node to another, the impulse travels into the area between the nodes, where the potassium channels dissipate it uselessly. This dissipation of nerve impulses is responsible for the paralysis, loss of sensation and blindness that occur after damage to the myelin.

MEDICAL DETECTIVES

While Ritchie, Kocsis and Waxman all have made major contributions to the understanding of this means of conduction, Kocsis works most directly on the electrophysiological aspects of demyelinating disease. His research involves pulsing minuscule electrical currents through individual rodent axons in various states of



In his specially shielded lab, Jeffery Kocsis prepares an experiment in which he will place a microelectrode within a single rodent nerve fiber.

myelination and demyelination. He then records their electrical behavior by placing tiny, specially fabricated micro-electrodes within single nerve fibers that are less than one hundredth of a millimeter in diameter.

The researcher works from a room within a room, a large metal mesh cage designed to keep out stray electromagnetic signals that could disrupt his delicate measurements.

"The mandate is to gain a better understanding of how axons work, and develop pharmacological means to make them perform better after they have been injured," Kocsis notes.

One phenomenon being studied intensely is in the area of multiple sclerosis. In some cases nerves renew their ability to transmit electrical impulses effectively—even though they have not regained their myelin coatings.

Assistant Professor Joel Black has contributed importantly to this question with a specialized technique called freeze-fracture electron microscopy, which produces incredibly detailed pictures of the molecules within membrane surfaces of nerve fibers. "The technique allows us to look at large areas of membranes and to see the spatial organization of molecules within the membranes," he explains. (See "The Platinum Portraits of Freeze-Fracture.")

Using Black's freeze-fracture pictures and Kocsis' electrophysiological findings, the team has established that the demyelinated region begins to acquire conduction-enhancing sodium channels—enough, it seems, to keep the current flowing across the unmyelinated wasteland of nerve fiber damaged by multiple sclerosis. One line of research, Dr. Waxman says, is to see whether drugs can speed this process, or perhaps neutralize the conduction-dampening potassium channels.

To this end, the group has begun *in vitro* experiments with 4-aminopyridine, a potassium channel blocker. "We have been able to induce reliable conduction in demyelinated nerve fibers," Dr. Waxman reports. "But we still have to understand more about this drug before we test it clinically. The potential side effects are very significant."

Dr. Waxman is also interested in the possibility of inducing remyelination of central nervous system tissue. If demyelination occurs in the peripheral nervous system—as it does in the Guillain-Barre syndrome, for example—Schwann cells simply extrude new myelin and recovery eventually occurs, Dr. Waxman notes. But in the central nervous system, oligodendrocytes, not Schwann cells, make myelin and they do not switch on so readily.

"We would like to be able to turn this cell on so that remyelination will occur in demyelinating diseases," Dr. Waxman says. "We are searching for the instructional molecules on the axon that tell the oligodendrocyte, 'myelinate me.'"

Using freeze-fracture technology, Black has detected what he takes to be just such molecules. He made this finding by examining fibers taken from the optic nerves of rats at a point in development characterized by rapid myelination. At just the time when they instruct oligodendrocytes to form myelin, the axons exhibit a new population of protein molecules on their surfaces.

Chemically prevented from being myelinated, the fibers nevertheless displayed numerous protein particles on the areas of fiber that ordinarily would have received coats of myelin. The particles were conspicuously absent on the areas destined to become unmyelinated nodes of Ranvier. "It seems the signal is programmed into the neuron," Black concludes.

Now the problem has been handed to Beth Friedman, who will attack it with her research specialty: immunocytochemistry. Using monoclonal antibody probes that stick to specific molecules and show up on electron micrographs, she is able to track changes that occur in specific molecules on nerve cells undergoing development, myelination or demyelination. To investigate the mysterious myelination-signal proteins, she is attempting to locate antibodies that attach to those particular molecules. This approach, if successful, will provide the group with a handle on the molecules that turn on myelination, and that hopefully can be used to turn on remyelination.

BILL CARTER



At first glance, multiple sclerosis—a chronic disease—wouldn't seem to have much in common with the acute disability caused by spinal cord injury. But there is an important connection.

Jeffery Kocsis points out that many cases of paraplegia and quadriplegia occur not because the spinal cord is completely severed, but because of demyelination that occurs in reaction to contusion and edema at the injury site.

"You can have a person with functional total paraplegia, who has a number of intact, though demyelinated, fibers coursing through the area of contusion," he notes.

An important goal is to get these demyelinated axons to conduct impulses. Thus, an effective treatment for the demyelination of multiple sclerosis may also apply to spinal injury.

The investigators also plan to pursue the traditional goal of spinal injury research: the regeneration of damaged central nervous system fibers.

Drs. Waxman and Kocsis both observe that research on nerve regeneration acquired an unsavory reputation a decade or so ago, when several investigators at other centers promised breakthroughs within specified time periods, then failed to deliver.

This image has improved in recent years, Dr. Waxman adds. One reason for the change is the steady progress of careful research into neural development and regrowth being conducted by his own group and others like it. Dr. Waxman says he is pleased that the Paralyzed Veterans of America has supported this approach with its grant. Other grants have followed, like a recent \$60,000 gift from the Daniel Heumann Fund for Spinal Cord Research, named for a young New Yorker who was paralyzed in a 1985 auto accident.

This research, Dr. Waxman emphasizes, involves a painstaking inquiry into the most basic cellular and molecular processes that could take years, even decades, to evolve into clinically useful findings.

"What causes axons to initiate growth and develop the machinery to generate electrical impulses? How can we induce regenerating axons to traverse scar tissue barriers in the central nervous system? What guides a growing or regenerating axon to the right target?" Dr. Waxman asks. "Every one of these problems needs work."

Asked if it will ever be possible to heal severed or functionally damaged spinal cords, Dr. Waxman answers carefully: "What I think is a minimal goal is to get some subset of fibers to cross the injured region." He points out that even if a mere 10 percent of fibers in the cord survive and function, it is enough to enable a person to walk.

Waxman leaves no doubt that he considers his department up to the challenge. "We have the best people. And everyone is passionately committed to it," he concludes. **YM**

(At left) Dr. Waxman converses with two veterans at the May dedication of the PVA/EPVA Center for Neuroscience and Regeneration Research of Yale University.

DOCTORS

by Dr. Adrian M. Ostfeld

BILL CARTER



Dr. Adrian M. Ostfeld

I

I finished medical school in 1915.
War in the background.
But I had no part of it.
I can see me now,
Lanky fellow I always was,
Night time studying in the kitchen.
I had my feet in ice cold water,
Drinking black coffee by the quart,
Jabbing my leg with an ice pick
To stay awake and learn.
Medical school was very tough.
So much anatomy. So many names
Of bumps on bones I had to learn.
All that materia medica,
Hundreds of plants and drugs I read about.
Sometimes I felt so stuffed with facts that I
Could see me pop and spew those facts for miles
The way a seed pod does in early fall.

Prescription writing was so difficult.
Infusions, decoctions, sublimates and all.
How many drops or parts of this and that?
How did I ever keep those matters straight!
Sometimes they showed us patients in the pit.
That's what we called the amphitheatre.
They'd take their clothes and point to parts diseased,
And talk as if the patient wasn't there.
I felt embarrassed at the time,
But we were all discerning gentlemen
And it did seem a dandy way to learn.

I felt so honored when, in cap and gown,
They shook my hand and gave me my degree.
You're *Medicinae Doctor* now, I thought,
A new successor to Hippocrates.
On graduation afternoon, I bought a model T
And started practice in my parents' home.
My patients all came from the neighborhood,
Most of them kids and pregnant women.
Some women at the change of life, but damn few men.
I always listened hard to patients' talk
And tried to give them peace of mind if nothing else.
It was pathetic how they trusted me.
How glad they were when my old model T
Pulled up in front of where the patient lived.
How often there was nothing I could do
Except to sit and fret and look concerned.

I always said—and some thought it a joke—
That hospitals were no place for sick people.
It's where you went to die, was what I thought
When I first put my shingle on the door.
And I had many a patient die at home.
It's not like now when death is sanitized.
We quarantine our dead and dying well.

We went so much by custom than by fact.
The journals then were full of anecdotes
And quaint reports but not a lot of science.
For a while it was autointoxication
That was the root of all disease.
High colonics were the order of the day.
I never put much faith in all that stuff.
But many top men took the view
That every bit of poison in the gut
Must be removed.

We took real risks in my day too.
Many a time a TB patient coughed into my face,
Or a skin rash I palpated without gloves
Turned out to be contagious syphilis.
Lues was what we used to call it then
So we could name it in polite society.
But I was lucky, too, I guess.
I never caught anything from my patients
Except sometimes their pain and helplessness.

Some patients really made me mad.
They said I didn't help them. Sometimes true.
But when they claimed I didn't care about them
Or that I charged too much, that really angered me.
I knew what all my families earned.
I always knew just what my fee should be.
And if they couldn't pay it right away,
Why, I could always wait a month or two.

Dr. Adrian M. Ostfeld is the Anna M.R. Lauder Professor of Epidemiology and Public Health. Last year he was elected to the Institute of Medicine.

In the late thirties when sulfoamides
 Came in and started widely to be used,
 I saw a whole new ball game coming up.
 For each disease a treatment was my hope.
 (I even remember that old radio joke
 About the brand new sulfa drug, so new,
 They didn't even have a disease for it yet.)
 But by the time I quit the game in fifty-one
 We'd only made a little progress in that way.
 Surgery was much safer, that was true.
 And penicillin changed things for all time.
 Infections started on a downward trend.
 But heart disease and cancer got all out of hand.

I'm glad I quit just when I did.
 I'd never have been able to keep up.
 All those new tests and x-rays, EKGs,
 Were starting to puzzle me.
 Seemed biochemistry was taking over medicine.
 And that was good for medicine but not for me.
 Got way out of sight in growth and in complexity
 Blood clotting, and the new hormones, microbial sensitivities,
 Biopsies, frozen sections and surgical pathology
 All left this poor old doctor way behind.

For about 10 years or so, 'til sixty-one,
 I still looked at my journals as they came.
 But more and more I was not reading them.
 So me and my old woman went to Florida.
 We used to swim a little, play some golf,
 But gave that up. It got to be too much.
 We have our bridge game every Thursday night.
 I read the newspapers although
 The print is getting much too fine for me.
 I garden some but most of what I do
 Is watch TV and walk around the block.
 Now all that's left of my degree
 And thirty-six years of practice
 Is that the neighbors call me "doc".

II

Thank God for the G.I. Bill of Rights.
 Before the war, I was a poor old country boy.
 I always felt like I was smart,
 And now I had the med school funds in hand.
 Just call me Vector. All my classmates did.
 That's a force with magnitude and direction.
 I'm aimed at life like an arrow.
 And I've always picked out the right target.

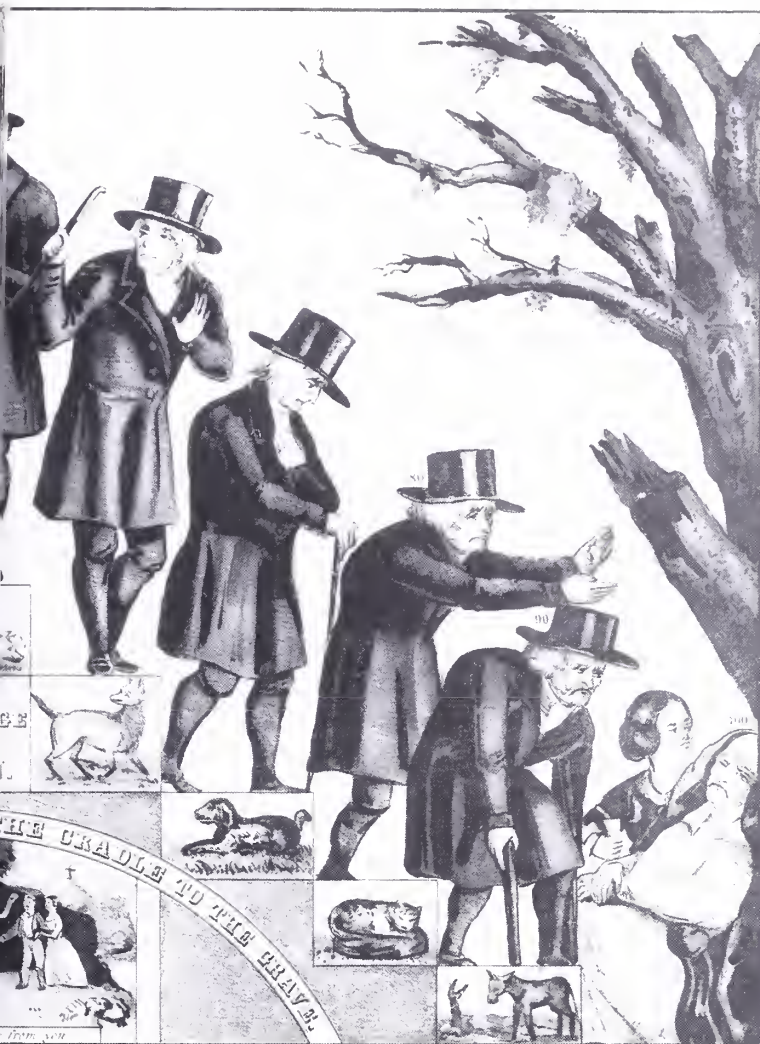
One thing really got to me in school.
 The faculty was in a civil war
 Between the basic scientists and the clinicians.
 The basic scientists taught us
 But all they really cared about
 Was their research and their graduate students.
 I felt like they looked down on us
 And on the part-time doctors on the staff.
 The clinical men were hard to find sometimes,
 Late for lectures, sometimes missing rounds.



The house staff were the ones who taught us most.
 I figured they're the ones who graded us
 So I tried the old brown nose technique on them.
 I told the surgery residents I was going into surgery,
 And the medicine house staff I had medicine in mind.
 The pediatricians that I loved to work with kids.
 I didn't lie to the psychiatrists.

Near the end of my senior year
 I saw how things stacked up in clinical academia.
 Surgeons made the money. Internists pulled the strings.
 I decided my talent lay in medicine.
 I ended up board certified.
 At first I thought of going home to practice.
 I'd halfway promised folks there that I would.
 But my wife had seen the bright lights
 And I certainly did not want to be
 The only specialist in Idabel, Oklahoma,
 Right down the road from De Queen, Arkansas.
 So I stayed in the big city with the big hospital.

Old Vector, I stayed aimed and pointed.
 I joined a group of very smart men.
 I kept my mouth shut, started rounds at seven



COURTESY YALE MEDICAL HISTORICAL LIBRARY

Then came the fight for Medicare.
We couldn't make the politicians see
That none of us ever turned down
An older patient who really couldn't pay.
Nor did our standards ever fall
When we took care of poor but honest folks.
Most of us came into medicine to help people
And we needed independence to do that,
Not stacks of government regulations.
Politicians don't know how to practice medicine
But they sure knew how to beat us.
Three words are not in my vocabulary, though—
"Surrender" and "Medicare assignment."

By 1970 I was pretty well fixed.
I devoted a little more time to fun.
I went to all my medical alumni meetings.
We'd learn some cardiology the easy way,
On soft deck chairs in warm tropical waters.

It wasn't too much later, though,
That I saw danger signals all around.
Internal medicine fragmented,
And, drowning in subspecialties,
I didn't feel secure in what I knew.
Then an orthopedic surgeon, tenant of mine,
Got sued for a cool million and lost.
The message came home loud and clear:
Practice defensive medicine! Cover your ass!
Send 'em to the superspecialist—
And get a CATSCAN to be sure.

Then along comes the HMO,
Based on the muddled principle
That if you brought together
The bottom third of the graduating class,
They'd make fewer mistakes than practicing alone.
That made as much sense to me
As fancy public housing in the slums.
Everyone's amazed how fast those buildings run down.
But what the heck could you expect
When you pile a lot of losers under one roof?

Old Vector started thinking to himself
There's trouble coming sure if you don't switch.
And then in 1983, I got a break.
There's a small college near my summer home
Just about sixteen hundred students. Real nice place.
We'd go there sometimes for plays and such.
Their health service doc suddenly ups and dies.
The dean asked me if I was interested.
The salary they offered me per year
Was more than any of the faculty
But less than half what my investments made.
I took their job, and feeling mighty good,
I felt like I shucked a sack of cement.

Now I work only three or four hours a day,
See nothing but colds and ankle sprains,
And give advice, sometimes, on safer sex.
But what the heck! I'm doing what I like
And looking out for good old number one.

And was very, very nice to the house staff.
They weren't making any more than I did
When I was a resident, about a hundred a month.
Bourbon for house staff parties was my gift
And something special when they took extra good care
Of one of my very sick or puzzling patients.

It took me three whole years to realize
That I was seeing as many patients
As both my partners put together. I hushed my mouth.
For two years I nursed every nickel,
And was very nice to the other men's patients.
Then I pulled out. Leased a big office in the new suburb
And took most of the group's patients with me.
I bought suburban land, held it four years,
Resold the land and tripled my investment.
When central city looked like it was moribund,
I bought out a medical lab
And moved it lock, stock and barrel
To the suburb of my choice.
I worked those years as hard as I could work.
But I never sacrificed my standards for care
Just to make an extra buck.

III

In 1968 I was a flower child,
And campaigned hard for Gene McCarthy's run.
So I had seen a little bit of life
Before my own bright college years.
I went to Carleton, majoring in history,
Then spent two dry and lonely, humbling years
In the Peace Corps in Northern Africa.
Nutrition was the greatest need I saw
For all those bloated-bellied kids
And mothers smiling while they slowly starved.
The cry of a really hungry baby
Will stay with me until the day I die
Or lose my mind to Alzheimer's disease.
It makes you feel that you must feed that kid
And steal or murder just to get the food
To quiet that awful, awful cry.

A farmer or a doctor was the way for me
But I thought medicine more challenging.
I breezed through college science and some math,
Then took the MCATs and did well on them,
Sent out my application to the schools I liked
And got accepted at my second choice.
I borrowed from my dad and from the bank.
To pay tuition and to house and feed myself
Took nineteen thousand dollars my first year.

My freshman year was really culture shock.
The facts of science hit me like a swarm of bees.
Cell biology, biophysics, biochemistry,
The threads of neuroscience, immunology
And the marvelous checks and balances maintained
By molecules complex beyond belief.
I was lost in wonder at the miracles
Of human reproduction, growth and life.
In that same year, I met a classmate
Whose views on life and human needs were much like mine.
And we were married in our second year.

The clinical years posed a problem I have not resolved:
How to put that wonderful science I had learned
In service to the people of the world.
I saw that pharmacology
Had placed a mighty arsenal of drugs
In service to us, even though some side effects
Must keep the patient and the doctor ever watchful.
But how did my knowledge of glucose metabolism
Provide calories to starving Africans?
How did my knowledge of the hypothalamus
Keep teenagers away from drugs and cigarettes?
I still don't have the answers.

Another thing I really didn't like
About the growing reliance on technology
Was that it even further cut

Communication of patient with the doc.
The patients sometimes went
From complaint to CATSCAN
Without a history or examination in between.

Graduation was remarkable for me,
But in my cap and gown no one could see
That I was six months pregnant, full of joy.

I don't know how we made it through our first parental year,
My husband and my baby and myself.
Bottles, diapers, au pairs and an endless need to sleep
Are things that stay the strongest on my mind.
And then, most marvelous of days, first laugh,
First crawl, first word and then first walk.
In Africa and in my infant son
Were linked the greatest human needs I could perceive.
I couldn't feed the hungry of the world,
But if I practiced pediatrics well,
I'd maximize life chances for a lot of kids.
Well, maybe that's a little grandiose.
I'll do the best I can.

By the time we'd finished residencies
My husband and I owed eighty-five thousand dollars.
We had to start in earning right away.
We joined an HMO and liked it there.
The need was great. There was so much to do.
Each of us saw about two dozen kids per day
Both sick and well, with problems great and small.
To me the most wonderful thing in the world
Is a really happy baby.
To hear the contented babbling of a child
Is as close to heaven as I expect to get.

Today's my birthday. I am thirty-five
And full of questions still:
Do we want another child?
To send another child into the world,
A world encased in filth,
Is not a choice that I can lightly make.
We spend our billions on nuclear bombs
When for a tiny fraction of the cost
We could make hunger disappear.
But what can I do about this insanity?
Shall I go to work for WHO?
Write letters to my congressman
And add them to the ocean of his mail,
Or take, perhaps, the plunge,
And challenge him for office?
What can I do to bring the wisdom
Of our science to serve the people of a world
Beset by war and hunger, blind leaders,
Old men with money in their eyes,
Preoccupied with looking tough and resolute
And carefully avoiding all the time
The screams of hungry babies, broken lives?

YM

LOOKING BACK AT TOMORROW

by Gregory R. Huth

In an era of laser surgery and submicroscopic research, some may view the history of medicine as anachronistic. Those who do, however, ought to glimpse at the calendar of Dr. David Musto, a professor who shares an appointment between the Child Study Center and the history of medicine.

When *The New York Times* needed an authority to comment on waning drug use among the middle class, they called on Dr. Musto, author of the landmark book *The American Disease*. A short time later, nationally syndicated journalist William Raspberry interviewed him and dedicated an entire column to Dr. Musto's research into cocaine use in turn-of-the-century Washington, D.C.

About the same time ABC's "Nightline" and CBS's "Sunday Morning" approached the physician/historian to lend some perspective to the debate over providing clean needles to addicts, and comment on proposals to legalize street drugs. More recently, Dr. Musto was appointed as historical consultant to the presidential AIDS commission.

Although Dr. Musto's area of interest makes him one the most publicly visible faculty members at the School of Medicine, he is but one of several scholars affiliated with the history of medicine section who are producing volumes of fascinating, useful—and sometimes disturbing—research. These scholars also teach some of the most popular courses at the School of Medicine.

"It is both fitting and necessary that as a leader in scientific and medical research, Yale should also teach the background from which these disciplines have sprung," observes Joseph S. Fruton, Ph.D. Fruton, the Eugene Higgins Professor Emeritus of Biochemistry, is the author of *Molecules and Life*. This history of biochemistry earned him the coveted

Pfizer Prize of the History of Science Society in 1973.

The scholarship of section chairman Frederic L. Holmes, Ph.D, the Avalon Professor of the History of Medicine and Biology, illustrates the respect the section has earned in both the history of science and of medicine. Holmes' book *Claude Bernard and Animal Chemistry* earned him the Pfizer Prize in 1975. Then, three years later, the same book won the William H. Welch Medal of the American Association for the History of Medicine.

Professor Holmes sees the section's dual emphasis on science and medicine as characteristic of the School of Medicine: "Although the history of science emerged as a distinct subspecialty about 25 years ago, at Yale you can't draw a line where this discipline leaves off and the history of medicine begins. This reflects the character of a medical school where basic research goes hand-in-hand with clinical care."

Students from the medical school and throughout the university have affirmed the quality of the section's scholarship by their enthusiastic response to its classes. Moreover, as many as 20 students carry this enthusiasm outside the classroom by joining the Nathan Smith Club, where they deliver papers in the history of medicine at monthly meetings. And every year several students turn to the section for advisors when they pursue an M.D. thesis in the field of medical history.

Gregory R. Huth is publications editor at the School of Medicine's Office of Public Information.

BILL CARTER



Frederic Holmes, history of medicine chairman, flanked by the section's other primary faculty members, Arthur Viseltar (left) and John Warner.

This year, the Class of 1988 paid one of its highest honors to Arthur Viseltear, Ph.D., M.P.H., associate professor of the history of medicine and public health, by voting him co-recipient of the Francis Gilman Blake Award for distinguished teaching. Viseltear's courses range from the introductory "History of Medicine" to "The Physician in Modern Society" and "Government and Health Policy."

Arthur Viseltear and Thomas R. Forbes, Ph.D., the Ebenezer K. Hunt Professor Emeritus of Anatomy and an expert in the history of forensic medicine, are traditionally invited to offer their reflections on the Hippocratic Oath and Prayer of Maimonides that are delivered to fourth-year students on graduation day at a private ceremony.

This early morning ritual evokes Viseltear's 1981 medical school commencement address, "Looking Back at Tomorrow," in which he challenged his audience to pursue history "to see if we can determine what we might choose to remember, what we might wish to preserve, and what needs to be reevaluated."

A DELICATE BALANCE

The contrasting styles Dr. Musto and the other section members—the one appealing to a wide, general audience, the other to the academy—illustrate a duality in the section that its chairman strives to keep in balance. Observes Professor Holmes, "We always walk a tightrope between the practical and the academic. The work of Dr. Musto has a high public profile because it shows how the history of medicine provides a broader perspective on one of today's most serious public health problems. At the same time, section members also pursue important historical issues that may be of less interest to the public."

Professor Holmes sees a parallel with this situation in research medicine. "Scientists are pleased, of course, when their research turns out to have a clinical application. At the same time, this does not discourage them from carrying out the basic research that adds to our general body of knowledge."

The duality between the practical and the academic even shows itself in the careers of individual section faculty members. Arthur Viseltear, for example, spent two years in the late 1970s in Washington, D.C., as a Robert Wood Johnson Health Policy Fellow assigned to the Institute of Medicine and to Senator Edward M. Kennedy's health subcommittee.

While he still teaches courses in national health policy, Viseltear has focused his latest research efforts on 20th-century history. He has established at Yale a major archive, "The Contemporary Medical Care and Health Policy Collection," that contains the papers of more than 40 health policy statesmen and institutions.

One of those statesmen is C.-E.A. Winslow. Associate Professor Viseltear is currently preparing a biography of this 20th-century Yale legend, who is widely regarded as the "father of modern public health."

Another recent Viseltear study documents the rise and fall of a bold educational experiment that the School of Medicine began in 1928, the Institute of Human Relations (IHR). This program, designed to make the school "civically constructive," brought under one roof varied resources made available by the divinity, law and nursing schools and the departments of economics, political science and sociology. IHR was discontinued in the early 1950s, the victim of a philosophical shift at the school in which medicine was viewed as a discipline distinct from the social sciences.

Why Viseltear's focus on Yale?

Replies the historian, "By examining the particular, in this case Yale, I hope to reveal the universal with respect to contemporary medicine and medical education."

THE SWEAT OF GENIUS

Section chairman Frederic L. Holmes throws light on the universal in another historical field—the development of research. His work documents the methods of leading scientists whose research spans three centuries, beginning in the late 1700s. Professor Holmes' scholarship helps us appreciate how much hard work medical researchers over the centuries have put into pursuing answers to the human body's most difficult puzzles.

"There's a stereotyped view of creative scientists, where discovery occurs due to a kind of 'eureka effect' characterized by a flash of insight," Professor Holmes observes. While he does not downplay the importance of such experiences, Holmes points out that they almost always culminate years of difficult, frustrating research.

Professor Holmes' 1985 book, *Lavoisier and the Chemistry of Life: An Exploration of Scientific Creativity*, highlights the career of one of the late 18th century's greatest medical researchers. Antoine Lavoisier not only discovered oxygen but also suggested its role in releasing energy in the human body.

Professor Holmes award-winning work, *Claude Bernard and Animal Chemistry*, chronicles the career of the scientist who was first to explain the glycogen function of the liver and other important organ processes. The French physician's

continued on page 18



Frederic L. Holmes interviews Sir Hans Adolph Krebs in 1978. The German biochemist died in 1981.

A Brief History of the Section

Although the section of the history of medicine was established only in 1979, it has deep roots in School of Medicine tradition. Since the 1920s, for example, the Beaumont Medical Club, established by medical school faculty members, has served as a focal point for the study and appreciation of medical history.

Moreover, for the last 30 years, beginning with Dr. Samuel Clarke Harvey, members of the department of surgery have sponsored annual lectures in the history of medicine. And medical students have long expressed their interest in the subject through the Nathan Smith Club, where they present historical papers at monthly meetings.

A distinguished neurophysiologist during the 1930s, '40s and '50s, Dr. John F. Fulton was a major influence in promoting interest in the history of medicine at Yale. One of the driving forces behind the Medical Historical Library and its outstanding collection of old and rare medical works, in 1951 Fulton also worked with the School of Medicine to establish a department of the history of medicine, and served as its first chairman until his death in 1960.

That same year, with the addition of Professor Derek Price, the department was expanded—to encompass the history of science and medicine—and was jointly administered by the medical school and the faculty of arts and sciences. During this decade, the department grew to a peak of seven members, and developed a highly successful Ph.D. program. Among the graduate students who obtained their degrees in those years are leading scholars and teachers of history of science and medicine today.

During the financially pressured years of the early 1970s, however, the university disbanded the department. A number of medical school faculty members, concerned to preserve the long tradition of teaching and scholarship in the discipline, persuaded then Dean Robert W. Berliner to establish an autonomous Section of the History of Medicine with two tenured faculty positions.

In 1979, Frederic L. Holmes, Ph.D., was appointed professor of the history of medicine, and Arthur J. Viseltear, Ph.D., M.P.H., associate professor of the history of medicine and public health. Together they constituted the new section of history of medicine, housed in John Fulton's old offices in the historical library.

In 1984 the section obtained approval from the Graduate School of Arts and Sciences to initiate a Ph.D. program in the history of medicine and life sciences, and Dean Leon E. Rosenberg supported the creation of a third, non-tenured, faculty position to help carry out this expanded activity. In 1986 John Harley Warner, Ph.D., was appointed assistant professor of the history of medicine.

Currently, two Ph.D. students are pursuing their degrees at the section, with another two first-year Ph.D. students and a transfer student arriving in the fall.

In addition to its medical and graduate school responsibilities, the section offers Yale College courses in the history of medicine and of the life sciences.

Frederic L. Holmes, Ph.D.

A Beaumont Medical Club Member's Coup

Though most of the 50 or so members of the Beaumont Medical Club content themselves to attend monthly lectures that keep them abreast of the latest issues and controversies in the field, others engage history as an avocation. Some, in fact, pursue their interest by writing scholarly articles and books.

One such devotee is former club president Dr. Sherwin B. Nuland, '55, an associate clinical professor in surgery and full-time private surgeon in New Haven. His recently published book, *Doctors*, has been selected as a Book-of-the-Month Club alternate and Paperback Book Club main selection. The book traces the history of physicians who changed the course of medicine from the time of Hippocrates to the present.

Dr. Nuland, a 20-year member of the Beaumont Club, credits the group with nurturing his interest in the history of medicine. "The fellowship and intellectual camaraderie of the Beaumont Club has been one of the major influences in my historical studies." He adds with a smile, "Participating in the club is something like playing baseball in the old semi-pro leagues. It brings professionals and talented amateurs together to produce a top-quality product."

Yale Student's History Paper Wins National Recognition



*Francis M. Lobo:
Osler Medal
winner*

Yale medical students as well as faculty have won distinction in the history of medicine. Francis M. Lobo, '91, was awarded the 1988 William Osler Medal from the American Association for the History of Medicine for his essay, "John Haygarth, Smallpox and Religious Dissent in 18th-Century England." The award is given for the best unpublished essay written by a medical student in the history of medicine.

Mr. Lobo, a 1985 graduate of the University of Pennsylvania, wrote the paper while attending the Wellcome Unit of the History of Medicine at the University of Cambridge. In conjunction with the prize, he was flown to New Orleans in May to present his essay at the association's annual meeting. His paper will be considered for publication in the *Bulletin of the History of Medicine*.

Scientific approach to the human body allowed him to establish physiology as an experimental field in the mid-18th century.

In recent months, Professor Holmes has completed a book about the pioneering work of Nobel laureate Sir Hans Adolph Krebs. During the early part of this century, Krebs, a German physician who emigrated to England, identified some of the processes of intermediary metabolism. The metabolic cycles he discovered, one of which is generally known as the "Krebs cycle," explain such important mechanisms as the pathway through which the body oxidizes food and synthesizes urea.

Is there any common thread running through the careers of these great scientists? Professor Holmes believes so: a carefully reasoned, logical inquiry into the human organism.

"We tend to think of medicine as ascending out of an age of ignorance over the last three centuries. But in fact, at a fundamental level modern medical research has more in common with its forebears than we might think," the historian concludes.

Dr. Stanley W. Jackson says that his historical studies have led him to a similar view. A section member and professor of psychiatry, he also serves as acting executive director of the Yale Psychiatric Institute. His most recent book is *Melancholia and Depression: From Hippocratic Times to Modern Times*.

To illustrate the sophistication of some medical investigators from the past, Dr. Jackson cites a monograph published by Dr. John Haygarth in the 1790s. Haygarth wanted to test the efficacy of instruments called metallic tractors. Doctors of the period routinely used these devices to "draw out" pain and inflammation by running them above the affected area.

"Haygarth devised a classic controlled study," notes Dr. Jackson. "For half his patients, the experimental group, he used metallic tractors for therapy. For the other half, the controls, he used wooden tractors painted to look like metal. The results of the groups were identical." This experiment disproved the effectiveness of metallic tractors.

DISQUIETING LESSONS

John H. Warner, Ph.D., an assistant professor in the section, studies the role that medical practice plays in 19th-century culture. He believes that the mirror of history also reminds today's practitioners to keep their own theories and practices in perspective. Warner's research into the treatments delivered by hospital physicians in the mid-1800s shows that therapeutic practices can take on special significance when the profession finds itself under attack and threatened economically, as it does today.

A Warner study entitled "Power and Identity in American Medicine" focuses on doctors practicing at Commercial Hospital in Cincinnati. The scholar's review of hospital records show that the once standard use of "heroic depletive therapeutics"—bleeding patients heavily, or purging them with powerful laxatives or emetics—was in steady decline among American doctors during the mid-1800s. Curiously, however, for a 10-year period these practices enjoyed a marked resurgence among Commercial Hospital's physicians.

Why this peculiar pattern in Cincinnati? Warner discovered that the city had become a stronghold of alternative medicine, with practitioners of eclectic, homeopathic and physiobotanic healing winning away many patients from orthodox physicians. Complained one doctor to a lay friend in an 1851 letter, "even the longest established and most estimable physicians have yielded large and lucrative portions of their practice to homeopathy, & etc...."

Warner's interpretation of these developments: "The revival of heroic depletion...was one device that regular physicians used to cope with an erosion of their professional power and control that could, they feared, lead to collapse."

In other words, the historian suggests that the Commercial Hospital doctors used dramatic, highly visible depleting "therapies" as a kind of symbol of orthodoxy that affirmed their identity as the only bona fide healers in the community. Lest the modern observer shrug off the doctors' behavior as that of an isolated group of hysterical practitioners, the historian raises the disturbing possibility of a parallel with the present.

Warner thinks that today's physicians should consider whether the increasing use of some heroic, high-technology procedures—such as heart transplants—might not represent another symbolic crusade of a profession that finds itself challenged on many fronts. Taking the traditional historian's stance, he does not presume to answer this question, but rather raises an important issue for examination and debate.

John Warner's scholarship affirms what Dr. Stanley Jackson terms a "central lesson" of the history of medicine. "Historical scholarship does more than give us respect for the past. It humbles us. It makes us realize that we had better not be too certain or overconfident."

Dr. Jackson concludes, "Many of today's medical findings will hold up, but we need to be reminded that some will change." YM

BILL CARTER



(right) The Yale Medical Historical Library, opened in 1941, houses over 90,000 books and manuscripts dating back to the 1200s. It is one of the most important resources of its kind in the country.

GALLERY

Metallic-Tractors

by James Gillray (British, 1757-1815)



COURTESY YALE MEDICAL HISTORICAL LIBRARY

In James Gillray's "Metallic-Tractors," the patient recoils from the tractors being applied by a disinterested operator. The popular print does not appear to be an advertisement for this form of therapy. It was secretly commissioned, however, by Benjamin Perkins, proprietor of the tractors in London, who apparently considered a print by London's foremost caricaturist to be a powerful advertising medium. Perkins commissioned the print at a time when the efficacy of the tractors was being questioned and when his business was being threatened by adverse publicity.

Metallic tractors, invented by Dr. Elisha Perkins, a prominent Connecticut surgeon, were a popular therapy at the turn of the 19th century. In published testimonials, the metal rods were claimed to effect cures of epilepsy, gout, rheumatism, burns, and more,

when drawn across the afflicted area. The tractors were introduced in London by the inventor's son, Benjamin Perkins, in 1795, shortly after his graduation from Yale. The claims for the tractors and their popularity prompted John Haygarth, a physician at Bath, to conduct a controlled therapeutic trial. A pair of wooden tractors, painted to look like the metallic tractors, were applied alternately with those of Perkins in five cases of rheumatism and found to have equal effects. The results were published in 1800 in a pamphlet "Of the Imagination, as a Cause and as a Cure of Disorders of the Body; Exemplified by Fictitious Tractors and Epidemical Convulsions." The pamphlet was reprinted in 1801, the date of Gillray's print.

—Susan Wheeler

HERE AND ABOUT

Two Appointed to National Commission

Dr. Donald J. Cohen, director of the Yale Child Study Center, and Irving B. Harris, a Chicago businessman and child advocate who is an associate of the Child Study Center, have been selected to serve on the newly created National Commission on Children.

The 36-member commission includes individuals who provide services, activities or research for children, public officials, and parents or representatives of parent organizations.

The President, U.S. House of Representatives and the U.S. Senate each appoint 12 members. Dr. Cohen, also the Irving B. Harris Professor of Child Psychiatry and professor of pediatrics, psychiatry and psychology, was appointed by the House, while Harris, a 1931 Yale College graduate and benefactor of the endowed professorship that bears his name, was named by the Senate.

The commission will serve as a forum on behalf of children, conducting public hearings on their status and on ways to safeguard and enhance their physical, mental and emotional well-being. It also will make recommendations on child health, and social and support services for children and their parents. The commission is scheduled to report next March.

Among the issues the commission will address: reducing infant mortality and the number of low-birth-weight babies, improving child nutrition, preventing and treating child neglect and abuse, encouraging academic excellence among children and reducing poverty.

The commission also has been charged to identify how the public and private sectors can work together to identify deficiencies in local family support services and to develop recommendations for meeting the needs of families and children in a coordinated way.

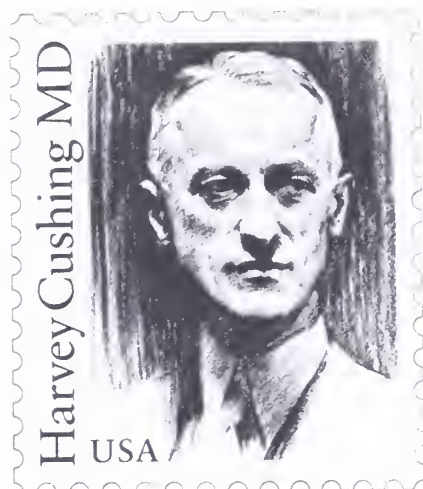
Postage Stamp Honors Dr. Harvey Cushing

The U.S. Postal Service released a 45-cent stamp honoring Dr. Harvey W. Cushing, the father of neurosurgery. The stamp, one of the Great Americans series, was issued June 17 in Cleveland, Ohio, Dr. Cushing's birthplace.

Noted artist Bradbury Thompson based the design for the stamp on a charcoal portrait of Dr. Cushing by John Singer Sargent, which hangs in the Yale University Art Gallery.

Dr. Cushing was an American surgeon, author and artist who laid the foundation for the field of brain surgery. Born in Cleveland in 1869, he received his B.A. degree at Yale in 1891 and M.D. degree at Harvard in 1895. He studied under noted American surgeon W.S. Halsted for four years at Johns Hopkins, followed by a year in Europe under Swiss surgeon Theodor Kocher.

Dr. Cushing returned to Johns Hopkins in 1901. He remained there until he became surgeon-in-chief at Peter Brent Brigham Hospital in Boston in 1912 and Mosely Professor of Surgery at Harvard Medical School. After retiring in 1932, he served as neurologist and medical historian at Yale. Before his death in 1939, he and two colleagues established the Yale Medical Library.



As an innovator who had a commanding influence on the progress of medicine and surgery throughout the world, Dr. Cushing was one of the first in the United States to use x-rays and the first to routinely take blood pressure readings during operations and in general practice. He also developed the use of electric cautery in brain surgery.

Dr. Cushing was among the first to operate on the pituitary gland, describing a condition which now is known as "Cushing's syndrome," and contributing to the overall understanding of the gland. He also made many laboratory studies of the nervous system.

However, his most notable achievements were in the development of many of the techniques and procedures for surgery of the brain and spinal cord that still are fundamental to the field of neurosurgery. His work has been credited with reducing the mortality rate in brain operations from nearly 100 percent to less than 10 percent.

In addition to his surgical skills, he won a Pulitzer Prize for his book, *Life of Sir William Osler*, in 1926. His talent as an artist is evident in his illustrations that describe his medical work and enhance his travel diaries. Dr. Cushing also took strong positions on better hospital and classroom training for medical students.

Paul Newman Receives Honorary Degree

Actor, director and philanthropist Paul Newman was among the nine individuals who received honorary degrees at the Yale University commencement on May 30. Mr. Newman was awarded the degree of Doctor of Humane Letters for his service to others.

Paul Newman's Hole in the Wall Gang Camp for children with life-threatening diseases opened June 26. The camp sessions, which will run through Aug. 18, will offer seriously ill boys and girls, age seven to 17, a camping experience as close as possible to that which is available to healthy youngsters. The 300-acre camp, built on the town boundaries of Ashford and Eastford, Conn., was designed to resemble the Old West, with log cabins, a corral filled with animals and an old-fashioned music hall.

Children will attend the camp free of charge. Half of the budget supporting the camp comes from Mr. Newman's food companies. The Internal Revenue Service required that the other half be from private and corporate donors.

Yale-New Haven Hospital is providing administrative direction, medical and nursing staff support and other services. Dr. Howard A. Pearson, former chairman of the department of pediatrics in the medical school and former chief of pediatrics for the hospital, provides medical supervision at the new camp. At the camp's June dedication, it was announced that the camp pond was being named Pearson Pond, in honor of Dr. Pearson.

Also providing services to the camp will be specialists in pediatric hematology from the University of Connecticut, Brown University School of Medicine, Baystate Medical Center in Springfield, Mass., and the University of Massachusetts School of Medicine.

MICHAEL MARSLAND



Paul Newman

Class of 1988 Residency Placements

CALIFORNIA

Cedars-Sinai Medical Center, Los Angeles
Lisa Matzer, *internal medicine*

Harbor-UCLA Medical Center, Torrance
Martin Chenevert, *emergency medicine*

Mercy Hospital, San Diego
Mitchell Sklar, *transitional*

Stanford University Hospital, Palo Alto
Dean Kedes, *internal medicine*
Mitchell Sklar, *diagnostic radiology*
Hedayatollah Zaghi, *internal medicine*

UCLA Medical Center, Los Angeles
E. Ted Parks, *orthopaedic surgery*

UCLA Neuropsychiatric Institute, Los Angeles
Steven Dobscha, *psychiatry*
Joshua Freedman, *psychiatry*

University of California, San Francisco
John Belzer, *orthopaedic surgery*
Allen Bowling, *internal medicine/neurology*
David Chelmow, *obstetrics and gynecology*
Jonathan Friedes, *obstetrics and gynecology*
Linda Hudak, *psychiatry*
Richard Jenkins, *medicine-primary*

CONNECTICUT

Hospital of St. Raphael, New Haven
Cynthia DeAngelis, *transitional*
Thomas Handler, *transitional*
Peggy Liao, *medicine-preliminary*
Pedro Miro, *medicine-preliminary*
Susanna Park, *medicine-preliminary*

Norwalk Hospital, Norwalk
Frederick Long, *medicine-preliminary*

Waterbury Hospital Health Center, Waterbury
Francis Cutruzzola, *medicine-preliminary*
Geraldine Ruffa, *medicine-preliminary*

Yale-New Haven Hospital, New Haven
Sibel Akyol, *psychiatry*
Stephen Bowers, *medicine-preliminary*
Martha Brochin, *pediatrics*
Robert Brown, *orthopaedic surgery*
Cynthia DeAngelis, *ophthalmology*
Charisse Deutch, *medicine-preliminary*
Kenneth Easterling, *orthopaedic surgery*
Thomas Handler, *diagnostic radiology*
Carla Jones, *obstetrics and gynecology*
Rhonda Karol, *medicine-preliminary*
Robert Kim, *internal medicine*
David Klimstra, *pathology*
Peggy Liao, *ophthalmology*
Elizabeth Murphy, *general surgery*
Autry Parker, *transitional*
Michael Rigsby, *internal medicine*
Geraldine Ruffa, *neurology*
Susan Valley, *medicine-preliminary/anesthesiology*
Leslie Weinstein, *surgery-preliminary/otolaryngology*
Terry Yee, *surgery-preliminary/urology*

DISTRICT OF COLUMBIA

Children's Hospital National Medical Center
Carol Miller, *pediatrics*

Washington Hospital Center
Daniel Schwarz, *surgery-preliminary*

FLORIDA

Jackson Memorial Hospital, Miami
Gregory Brown, *internal medicine*
Odett Stanley-Brown, *pediatrics*

ILLINOIS

Children's Memorial Hospital, Chicago
Cristina Bengoa, *pediatrics*
Irene Freeman, *pediatrics*

Illinois Masonic Medical Center, Chicago
Michael Mockovak, *transitional*

Michael Reese Hospital, Chicago
Walter Stadler, *internal medicine*

University of Chicago Medical Center, Chicago
Stephen Bowers, *emergency medicine*
Lisa Conrad, *internal medicine*
Robin Kornegay, *pediatrics*
Andres Rodriguez, *internal medicine*

University of Illinois, Chicago
Michael Mockovak, *ophthalmology*

LOUISIANA

Tulane University School of Medicine, New Orleans
Elizabeth Mannick, *pediatrics*

MARYLAND

Francis Scott Key Medical Center, Baltimore
M. Kathleen Carney, *internal medicine*

Johns Hopkins Hospital, Baltimore
Kenneth Andreoni, *general surgery*
Geraldine Mogavero, *diagnostic radiology*
Eva Simmons, *internal medicine*

MASSACHUSETTS

Beth Israel Hospital, Boston
David Ives, *internal medicine*
Ellen Weinstein, *medicine-preliminary*

1988 National Match Results

The results of the 1988 National Resident Matching Program were announced March 23. Of 19,513 positions offered this year, 16,119 were filled. U.S. graduates were matched into 13,496 of these; the balance were filled by foreign medical graduates, U.S. physicians who had graduated in previous years and osteopathic physicians.

Within the primary care specialties, fewer U.S. students matched into family practice programs than in any previous year of this decade. Only 1,494 positions were filled, a 16 percent decrease in U.S. graduates entering family practice as compared to 1987. There were 3 percent fewer U.S. graduates entering categorical programs in internal medicine than in 1987, but the percentage in primary care internal medicine programs increased by 17 percent, from 173 to 209. Pediatric positions filled by U.S. graduates decreased by only 53. The number of U.S. graduates entering Ob/Gyn programs increased from 828 to 903.

—The Association of American Medical Colleges

Boston University School of Medicine, Boston

Carlton Barnswell, *general surgery*
 Donna Richman, *internal medicine*

Brigham and Women's Hospital, Boston

Lenore Soodak, *obstetrics and gynecology*
 Pradeep Varma, *diagnostic radiology*

Massachusetts Eye and Ear Hospital, Boston

Susanna Park, *ophthalmology*

McLean Hospital, McLean

Leslie Jacobsen, *psychiatry*

New England Deaconess Hospital, Boston

Michael Mahig, *internal medicine*

Tufts/New England Medical Center, Boston

Jonathan Borden, *general surgery/neurosurgery*

MISSOURI**Barnes Hospital, St. Louis**

Kelle Moley, *obstetrics and gynecology*

NEW YORK**Beth Israel Medical Center, New York City**

Pradeep Varma, *medicine-preliminary*

Cornell University/New York Hospital, New York City

Charisse Deutch, *neurology*

Mary Imogene Bassett Hospital, Cooperstown

Laura Kuckes, *transitional*

Montefiore/Einstein Affiliated Hospitals, Bronx

Leslie Jacobsen, *pediatrics*

Mount Sinai Hospital, New York City

Larry Amsel, *psychiatry*
 Vivian Orey, *pediatrics*
 Michael Rothschild, *surgery-preliminary/otolaryngology*

The New York Hospital, New York City

Amy Bloch, *psychiatry*
 Nicole Davis, *obstetrics and gynecology*
 Jose Dizon, *internal medicine*
 Laura Kuckes, *psychiatry*
 Robert Root, *psychiatry*
 Lisa Straus, *general surgery*

New York University Medical Center, New York City

Leigh Hutchinson, *internal medicine*
 Frederick Lang, *surgery-preliminary/neurosurgery*

Presbyterian Hospital, New York City

Francis Cutruzzola, *diagnostic radiology*
 Lance Markbreiter, *orthopaedic surgery*
 Steven Slovic, *general surgery*
 Linda Washington, *internal medicine*

Strong Memorial Hospital, Rochester

Edgar Blair, *internal medicine*
 Brent Tatum, *internal medicine*

NEW HAMPSHIRE**Dartmouth-Hitchcock Medical Center, Hanover**

Timothy James, *general surgery*

NEW JERSEY**UMDNJ-New Jersey Medical School, Newark**

Kristine Lindo, *general surgery*

NORTH CAROLINA**Duke University Medical Center, Durham**

K. Lisa Cairns, *medicine-preliminary*
 Frederick Long, *diagnostic radiology*

North Carolina Memorial Hospital, Chapel Hill

Ed McClau, *orthopaedic surgery*

PENNSYLVANIA**Abington Memorial Hospital, Abington**

Geraldine Mogavero, *medicine-preliminary*

Hospital of the University of Pennsylvania, Philadelphia

Laura Dember, *internal medicine*
 Robert Doms, *pathology*
 Amy Justice, *internal medicine*
 Joseph King, *neurosurgery*
 Peter Merkel, *internal medicine*

Temple University, Philadelphia

Joi Barrett, *internal medicine*

WASHINGTON**Group Health Cooperative of Puget Sound, Seattle**

David Cowan, *family practice*

University of Washington Affiliated Hospital, Seattle

David Galbraith, *surgery-preliminary*
 Janice Janas, *otolaryngology*
 John Nienow, *medicine-primary*
 Henry Rice, *general surgery*

WISCONSIN**Medical College of Wisconsin, Milwaukee**

Pedro Miro, *diagnostic radiology*
 Frederick Long, *medicine-preliminary*

Yale School of Medicine Residency Applications 1983-1988

	1983	1984	1985	1986	1987	1988
Total No. in Class	98	108	101	104	96	99
Medicine (total)	45	47	43	50	50	40
Medicine (3 year)	39	33	31	37	24	23
Medicine (1 year)	6	8	12	13	16	17
Surgery (total)	15	19	19	21	11	15
Surgery (categorical)	10	10	13	15	7	8
Surgery (1 year)	5	9	9	6	4	6
Obstetrics/gynecology	3	9	11	4	0	6
Pediatrics	8	8	10	7	8	8
Pediatrics (1 year)	0	0	1	2	1	1
Psychiatry	14	7	6	9	15	9
Orthopaedic surgery	5	4	2	1	5	7
Diagnostic radiology	4	6	6	3	2	7
Ophthalmology	3	3	5	5	7	4
ER medicine	1	1	1	0	3	2
Ear, nose & throat	2	2	2	1	3	3
Family practice	5	2	1	2	2	1
Primary care	0	0	0	0	1	2
Neurology	1	1	1	3	1	3
Anesthesiology	1	1	0	3	4	1
Neurosurgery	1	2	2	2	1	3
Urology	0	2	0	0	1	1
Pediatrics/medicine	0	0	1	0	1	0
Occupational medicine	0	0	1	0	0	0
Pediatric neurology	0	0	1	0	0	0
Dermatology	0	0	1	0	0	3
Transitional/flexible	5	2	4	4	3	6
Radiation therapy	0	1	1	1	3	1
Pathology	0	3	0	2	2	2
Rehabilitation medicine	0	0	0	0	1	0
Research, teaching	0	5	3	4	5	1

President Schmidt Visits Medical School Council

Yale President Benno C. Schmidt Jr. presented remarks to the Medical School Council on March 17. He outlined four trends that he saw as key to the School of Medicine's role in the University.

- Inter-departmental and inter-school barriers are coming down. Students and researchers from various disciplines are working together more closely. The president said that the Center for Molecular Medicine will further encourage such collaboration.
- The University is entering a period of extensive physical expansion and rebuilding. "I am entirely devoted to the tremendous building and renovation efforts that are ongoing at the School of Medicine," President Schmidt commented.
- Yale is involving itself more deeply in the cultural and economic development of New Haven. The University and the medical school have a keen interest in redevelopment projects such as Downtown South in the Hill neighborhood, and a possible biomedical research park along the Route 34 extension.

- The University is increasingly stressing the historical roots and ethical responsibilities of the professional disciplines that it teaches. President Schmidt noted that the School of Medicine has a long tradition of emphasizing the social responsibility of medicine.

Yale Journal Seeks Editors, Software

The Yale Journal of Biology and Medicine has instituted a new category of member for its editorial board. In addition to student and faculty editors, the journal is now appointing a limited number of editors-at-large from among its former student editors. To qualify, candidates must apply to the editorial board and must recruit at least one paper per year that is accepted for publication in the journal. Appointments as editor-at-large are renewed annually. Reappointment depends on continuing activity by the candidate. Suzanne Lande, managing editor of the journal, welcomes inquiries from alumni of the journal's board.

The increasing importance of computers for scholarly and medical purposes has

led *The Yale Journal of Biology and Medicine* to initiate a new section of software reviews. Programs may be submitted for review to *The Yale Journal of Biology and Medicine*, 333 Cedar St., New Haven, CT 06510. Reviewers are recruited from medical students and faculty, and they are entitled to keep the software after it has been reviewed.

The
Yale
Journal
of
Biology
and
Medicine

RECENT DEVELOPMENTS
IN COCAINE RESEARCH

BILL CARTER



Yale President Benno C. Schmidt Jr. flanked by Dr. John H. Seashore, president of the Medical School Council, and Dean Leon E. Rosenberg

Dr. Black Promotes Heart Disease Prevention

Dr. Henry R. Black, associate professor of medicine, has received a Preventive Cardiology Academic Award from the National Heart, Lung and Blood Institute of the National Institutes of Health.

With the award, a five-year grant that began July 1, Dr. Black will develop a preventive cardiology program designed to focus medical school curriculum on emphasizing prevention of cardiovascular disease.

According to Dr. Black, "cardiovascular disease is the biggest killer in the United States, and up to now most of our attention has been directed at treating people who already have cardiovascular disease.

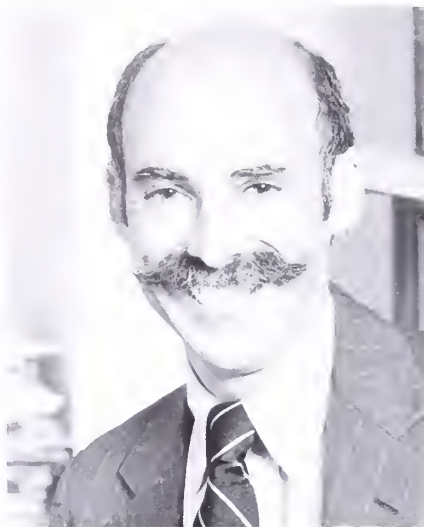
"The success of treating hypertension has made it clear that preventive efforts pay off. If we have similar success in treating lipid disorders and getting people to stop or never to start smoking, we hope to reduce significantly the impact of cardiovascular disease."

Dr. Black says the National Heart, Lung and Blood Institute is committed to preventive cardiology education, and is providing awards to insure that medical students and house staff are familiar with developments in this rapidly expanding field. In addition to supplementing the current curriculum, which is directed toward treating in-patients with cardiovascular disease, the preventive cardiology program will foster interdisciplinary collaboration among faculty and broaden training and research opportunities for medical students and house staff.

Dr. Black has assembled a team of faculty representing internal medicine, surgery, epidemiology and public health, psychology and psychiatry to work with him in designing and implementing the program. A nine-member preventive cardiology program advisory committee also has been established to review program materials and proposed curriculum changes.

"The essence of the program is to provide students with an expert's view on what they should know in preventive cardiology," says Dr. Black. The faculty will provide material in their area of expertise to students and house staff. Senior internal medicine house staff in their role as teaching residents will impart that knowledge to medical students during the students' internal medicine clerkship. In this way, the program will also insure that internal medicine house staff are aware of current concepts in preventive cardiology.

Faculty will serve as advisers to students provide articles for a preventive cardiology newsletter to be edited by Dr.



Dr. Henry R. Black

Black, help run a student journal club and suggest topics for theses. In collaboration with Dr. Perry Miller, associate professor of anesthesiology, computer-based expert systems for managing hypertension and lipid disorders will be further developed and improved.

The preventive cardiology program faculty and their areas of expertise are:

- behavior modification and stress management*, Gary E. Schwartz, Ph.D., professor of psychology and psychiatry, and Lynda H. Powell, Ph.D., assistant professor of epidemiology;
- biostatistics and preventive medicine*, Dr. James F. Jekel, the Charles E.A. Winslow Professor of Public Health;
- cardiovascular epidemiology*, Dr. Adrian M. Ostfeld, the Anna M.R. Lauder Professor of Epidemiology and Public Health;
- diabetes and obesity*, Dr. Robert S. Sherwin, professor of medicine;
- exercise*, Dr. Frans Wackers, professor of diagnostic radiology and medicine;
- hypertension*, Dr. Marvin Moser, clinical professor of medicine;
- lipids*, Dr. Kenneth L. Cohen, associate professor of medicine;
- peripheral vascular disease and surgical aspects of preventive cardiology*, Dr. Richard J. Gusberg, associate professor of surgery;
- smoking*, Dr. Richard A. Matthey, professor of medicine.

Grant Furthers Research On Psychotropic Drugs

A multidisciplinary team headed by Dr. George K. Aghajanian, professor of psychiatry and pharmacology, will expand its research into the neurophysiological and neurochemical factors in mental illness. The group hopes to develop more effective and safer drugs to use in treating people with mental illness and in helping drug addicts cope with withdrawal.

The research is being supported in part by a \$500,000 unrestricted grant that the Bristol-Myers Company has awarded Yale University. The grant is one of five that the pharmaceutical company has made to universities this year.

Dr. Aghajanian and his colleagues conduct their research in the Abraham Ribicoff Research Facilities at the Connecticut Mental Health Center, a collaborative effort of the University and the Connecticut Department of Mental Health. Their laboratory adjoins a clinical research unit, an arrangement that enables biomedical scientists and physicians to quickly apply basic scientific discovery to the clinical arena.

Dr. Aghajanian, director of the biological research training program in psychiatry, describes his team's research focus as "the possible biological bases of disorders from depression and schizophrenia to drug abuse."

The research concentrates in three areas—the mechanisms of action of hallucinogenic drugs, opiate withdrawal and anti-depressant drugs. These processes involve the three major neurotransmitters—dopamine, norepinephrine and serotonin—that are believed to be involved in psychiatric disorders. Imbalances in these substances have been linked to such major psychiatric illnesses as anxiety, depression and schizophrenia.

"The drugs we now have to use for the treatment of major psychiatric disorders were almost all discovered serendipitously," Dr. Aghajanian says. "But we can use these drugs to identify the brain processes involved in the disorder. Then our research on the processes may reveal the mechanisms of the disease, and lead to the development of more specific drugs with fewer side effects."

Researchers hope one day that biochemical testing techniques will be available to use in the diagnosis or early detection of psychiatric illness.

The Yale findings could lead to ways to make drugs more efficacious for some 10 to 15 percent of Americans who at some time in their lives will suffer from serious depressive illnesses.

Researchers are investigating new anti-psychotic agents which react to the serotonin-2 receptor—the same receptor site that hallucinogens interact with. Most anti-psychotic agents interact with the dopamine receptor and, with continued long-term use, can cause irreversible neurological dysfunction.

Researchers also hope that studies of the way hallucinogens interact with the serotonin-2 receptor will lead to the development of anti-psychotic drugs with fewer toxic side effects. In addition, Dr. Aghajanian's basic research on opiate receptors provides information from which clinical researchers hope to develop drugs to assist opiate and heroin addicts through withdrawal.



Medical Library Expands

A \$10.2 million construction project has begun that will increase the size of the medical library by nearly half. The 58,000 square foot expansion, which includes room for offices and stacks, is scheduled to be completed by 1990.

The library will be renamed the Harvey Cushing/John Hay Whitney Medical Library.

Yale-Harvard Study Suggests Shyness Inborn

A joint study by researchers at Yale and Harvard bolsters earlier evidence that some children are born to be shy and that the tendency persists as they grow older. According to the study, between 10 and 15 percent of all children are extremely shy, and many of them may be shy because their nervous systems react more vigorously to new situations and strangers.

Shy children in the study responded to new situations with higher than average heart rates, blood pressure and muscle tension as well as greater pupil dilation and higher levels of norepinephrine, a brain chemical produced during stress. Furthermore, they tended to have higher heart rates even when sleeping, suggesting possible inborn differences.

The study, which is the first to link physiological factors to shy behavior in children, followed Boston-area children between the ages of 1 1/2 and 7 1/2 and compared them to children who were extremely outgoing. Although a few of the older children appeared to outgrow their shyness, most still hesitated before joining in play sessions with unfamiliar children. About 400 children were evaluated for the study published April 8 in the journal *Science*.

"We would tell parents who want to change their shy child's behavior that their efforts are perhaps better spent helping the child adapt to shyness," says J. Steven Reznick, assistant professor of psychology at Yale, who was joined in the research by Harvard psychologists Jerome Kagan and Nancy Snidman. "While shy children may never become the life of the party, with their parents' help they can learn to enjoy the party."

Yale Prof Fuels Pilot Of Daedalus Flight

On April 23, when Kanellos Kanellopoulos plunged into the Aegean Sea 30 feet off Santorini island, he had MIT to thank for the Daedalus, the ultralight aircraft that allowed him to pedal there from Crete. And he had a Yale professor to thank for the drink that fueled him—and cooled him—in his record setting human-powered flight.

Ethan R. Nadel, Ph.D., professor of epidemiology (environmental health) and

physiology, and a fellow at the John B. Pierce Foundation Laboratory, developed a drink for the four-hour, 74-mile Daedalus flight that provided both cooling and calories by employing a glucose molecule that passes through the stomach lining to the blood stream without digestion.

Kanellopoulos, the Greek national bicycling champion, sipped the liquid during the course of his flight, that more than tripled the distance record for straight-line human-powered flight set by Bryan Allen on June 12, 1979. On that date, Allen piloted the Gossamer Albatross across the English Channel.



The flight of the Daedalus—35 centuries after its mythical namesake.

Bristol-Myers Increases Cancer Center Support

A \$3 million, five-year research agreement to develop anticancer drugs has been announced between Bristol-Myers Co. and the Yale Comprehensive Cancer Center (YCCC).

The collaboration will continue a successful partnership between Bristol-Myers, the world's largest researcher and developer of anticancer drugs, and YCCC, one of the few institutions where scientists involved in researching such drugs work together from the first laboratory experiments through clinical trials among patients.

Previous agreements between Bristol-Myers and the center date back to 1977, when the company granted \$500,000 over five years. A subsequent six-year grant provided \$3 million for six years. These funds helped the center play a leading role in developing several important anticancer

drugs, notes Alan C. Sartorelli, Ph.D., Alfred Gilman Professor of Pharmacology and center director.

"The cooperative research agreement has provided an excellent opportunity for Yale and Bristol-Myers scientists to combine our skills in areas of mutual research interests and apply them to the solution of some of the most perplexing areas of cancer chemotherapy," comments Professor Sartorelli. "These areas include the development of promising new anticancer antibiotics as well as methods to search for new drugs capable of converting malignant cells to benign cells."

Professor Sartorelli adds that while Yale researchers have the resources to identify new drugs with the potential for treating cancer, the resources of industry are necessary to conduct toxicology tests for safety.

Bristol-Myers has the option to license anticancer drugs developed by participating Yale faculty during the agreement.

Student Research Day

On Tuesday, May 10, 40 students from all four classes of the School of Medicine presented at the second annual poster session of Student Research Day. Students represented each of the school's 17 departments, and made up the largest research day to date.

Dr. Arnold S. Relman, editor of The New England Journal of Medicine, delivered the first Lee E. Farr, M.D. Lecture, "Communicating the Results of Medical Research: Ethics, Economics and the Media."

The following includes an excerpt from the opening remarks of Dr. John N. Forrest, Jr. director of the office of student research, and abstracts of the award winning theses of five students, who made oral presentations.

Opening Remarks

Student research and the required thesis have been a part of Yale School of Medicine since 1839, when graduating students presented their thesis work to the Connecticut Board of Medical Examiners. It would not be an exaggeration to say that the student research presented here today surpasses that of the past 149 years in its substance and diversity of biological sciences. The students presenting and listening today may be interested to know the tradition of student research:

Vesalius published his anatomy text on the day after graduation (obviously in the days before the match) and that the best work of many investigators including Charles Best's discovery of insulin and Jay MacLean's discovery of heparin was accomplished as medical students. It is notable that two of our distinguished departmental chairmen who are members of the National Academy of Sciences, Chuck Stevens of the section of molecular neurobiology and Vince Marchesi of the department of pathology, began their research careers as Yale medical students. Today's activities demonstrate that this tradition is intact.

Dr. John N. Forrest Jr.

Abstracts

Sulfation of Proteoglycan within Exocrine Storage Granules: A Possible Role in Secretory Packaging.

Edgar Allen Blair, 1988

A proteoglycan is amplified in parotid secretion granules of rats chronically stimulated with isoproterenol which can be radiolabeled by injecting the animal with ^{35}S -inorganic sulfate and which, upon SDS-polyacrylamide gel electro-phoresis, appears as a closely spaced ladder of bands. Chondroitinase AC or ABC diges-

tion results in loss of the ladder pattern on SDS gels, and amino acid analysis of the purified proteoglycan reveals it to be a proline-rich protein with an amino acid composition almost identical to that previously reported for a well characterized acidic proline-rich protein from rat parotid (50). The proteoglycan also incorporates radiolabel when isolated granules from chronically stimulated rats are incubated in vitro with the activated sulfate donor ^{35}S -phosphadenosine phosphosulfate ([^{35}S]PAPS). ^{35}S incorporation is sensitive to known inhibitors of PAPS transport and is associated in large part with intact granules, based on sedimentation and autoradiographic analyses. Incorporation into secretory granules appears to be lower in magnitude than that occurring in a Golgi-containing fraction. Thus granule-associated sulfation may reflect "spillover" of an activity that is more proximally focused in the intracellular transport pathway. A hypothesis is advanced that Golgi- and granule-level sulfation facilitates secretory packaging and is amplified in the chronically stimulated parotid in order to reduce the fixed positive charge contributed by the large amount of basic secretory protein.

An Effective New Prognostic Staging System for Acquired Immunodeficiency Syndrome (AIDS).

Amy Caroline Justice, 1988

To evaluate promising new treatments for acquired immunodeficiency syndrome

(AIDS), without the ethical dilemma of concurrent placebo controls, an effective system is needed for prognostic staging. Such a system has not been developed, because investigators have either concentrated on the prognostic transition from HIV-positivity to overt AIDS, or have staged the overt syndrome mainly according to morphologic evidence. In 76 consecutive patients with AIDS treated at Yale-New Haven Hospital during 1981-86, 3 major functional deficits were found to be important predictors of death. They were: substantial neurologic deficit (e.g. seizures, severe lethargy, aphasia); severe hypoxemia (arterial $\text{pO}_2 \leq 50$); or any 1 of 3 cytopenias (Hematocrit < 30 , WBC $< 2,500$, or platelets $< 140,000$). Stage III was assigned to patients with "bone marrow" failure, classified as any 2 of the 3 cytopenias; Stage II was assigned for any of the neural, respiratory, or single hematologic deficits; and Stage I had none of the deficits. For the "development set" of 76 patients, 4-month survival rates in the three stages were I, 25/28 (89%); II, 19/38 (50%); and III, 3/10 (30%). The corresponding median months of survival were 10.8, 3.85, and 2.3. The next 42 consecutive patients during 1986-87 were used as a "challenge set." The corresponding survival rates for 16, 19, and 7 persons in each stage were I, 69%; II, 42%; and III, 29% at 4 months, with median survival times of 7.2, 1.6, and 0.7 months. The challenge set results thus confirmed the prognostic gradient.

This prognostic staging system, based on functional deficits, is simple to use, noninvasive, and inexpensive. It offers an effective way to predict prognosis for individual patients, and to improve evaluations when treatments are compared with or without use of randomized trials.



Five members of the Class of 1988 made oral presentations at Student Research Day. (From left) seated: Peter Merkel, Edgar Blair and Amy Justice. Standing: David Klimstra and Kelle Moley.

PHOTOS BY BILL CARTER

Insulin Resistance and Hyperinsulinemia Precede Insulin Deficiency in Hypertransfused Patients with Thalassemia Major.

Peter Alexander Merkel, 1988

Diabetes mellitus in patients receiving hypertransfusion therapy for thalassemia major is usually attributed to damage to β cells. To examine whether iron overload might lead to insulin resistance even before the development of impaired insulin secretion, 12 children with thalassemia major (4 prepubertal, 8 pubertal) with normal or only modestly impaired glucose tolerance on chelation therapy were studied. Each patient received intravenous insulin ($40 \text{ m}\mu/\text{m}^2 \text{ min}$) to raise plasma insulin to $\approx 80 \text{ }\mu\text{U}/\text{ml}$ for 2 hours while plasma glucose was maintained at $90 \pm 5 \text{ mg/dl}$ by a variable rate glucose infusion (euglycemic insulin clamp technique). Under these conditions of euglycemia and hyperinsulinemia, the glucose infusion rate reflects total body glucose metabolism (M) and is an index of insulin sensitivity. In prepubertal patients with thalassemia major, M values ($319 \pm 23 \text{ mg}/\text{m}^2 \text{ min}$) were similar to those in prepubertal normal controls ($315 \pm 41 \text{ mg}/\text{m}^2 \text{ min}$, $P=\text{not significant}$). In contrast, insulin sensitivity was markedly reduced in pubertal thalassemics (151 ± 17 vs. $224 \pm 15 \text{ mg}/\text{m}^2 \text{ min}$ in normal pubertal controls, $p<0.01$). The reduction in insulin sensitivity in patients with thalassemia major was correlated with iron load ($r=-0.77$, $p<0.01$). The pubertal, but not the prepubertal thalassemics, had an excessive rise in plasma insulin levels after oral glucose ($p<0.001$). Furthermore, in response to a standard 125 mg/dl (6.9 mmol/l) hyperglycemic stimulus (hyperglycemic clamp technique), 2-3 fold greater than normal early and late insulin and C-peptide responses were demonstrated in the pubertal patients. These data suggest that insulin sensitivity is reduced in children with thalassemia major when they reach puberty due, in part, to chronic iron overload. Compensatory increases in insulin secretion may help maintain normal glucose tolerance in the face of insulin resistance at this stage of the disease. Increased insulin secretion due to insulin resistance may contribute to β -cell exhaustion in thalassemia major.

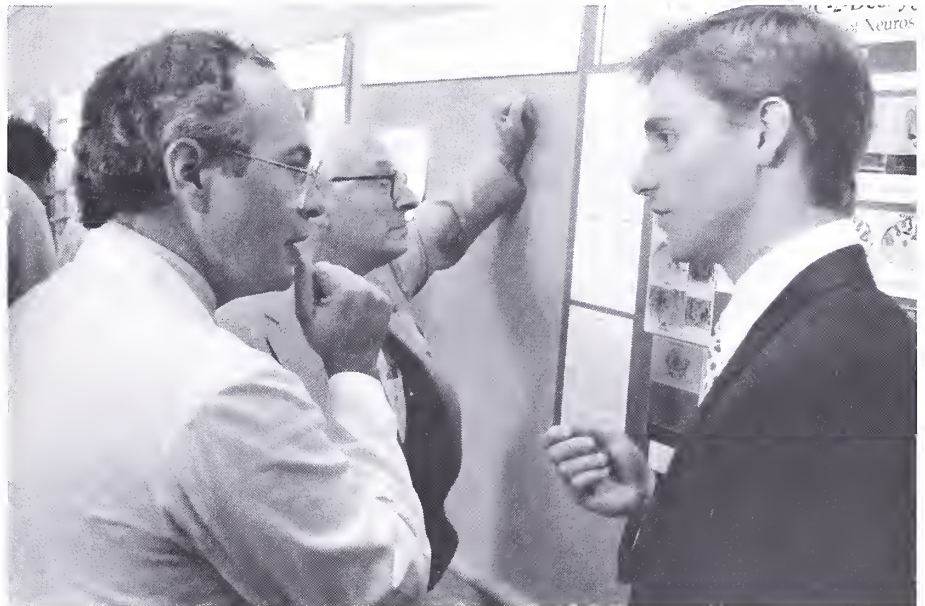
Manifestation of Diabetes Mellitus on Mouse Follicular and Pre-Implantation Embryo Development: An In Vitro and In Vivo Investigation.

Kelle Harbert Moley, 1988

This thesis examines the manifestations of a chemically induced, in vivo diabetic state on follicular and pre-embryo development. In addition, the influence of individual metabolic derangements existing in the uncontrolled diabetic state on in vitro pre-embryo development was examined.



Dr. John N. Forrest, director of the office of student research, reviews the poster of Ken Androni '88 (right), while Ole Aassar '90 looks on.



The poster of Frederick Lang '88 (right), grabs the attention of Dr. Bennett A. Shaywitz, associate professor of pediatrics, neurology, and the Child Study Center.

An in vivo diabetic state was created in mice by intraperitoneal injection of streptozotocin (S, 300 mg/kg) or alloxan (A, 330 mg/kg). Ovarian follicular development was assessed by germinal vesicle breakdown (GVBD) in oocytes recovered from follicles 8 hours after hCG administration. GVBD was noted in 57% of oocytes from control animals, but was significantly less in oocytes recovered from streptozotocin (24%) and alloxan (42%) diabetic groups ($p<0.001$). This delay in oocyte maturation was reversed by in vivo insulin administration to the diabetic mice (GVBD controls, 60%; S, 60%; A, 57%). Additionally, an early in vivo delay in pre-embryo development was evident at recovery of pre-embryos 48 hours. This developmental delay was also seen in the 72 hours in vitro culture of the two-cell

embryos recovered from diabetic animals. Compared to controls, pre-embryos from alloxan or streptozotocin diabetic mice exhibited markedly impaired growth as assessed by both 1) distribution of developmental stages at each 24 hour observation period for up to 72 hours in culture; and 2) overall rate of development.

With in vivo insulin administration, the early in vivo pre-embryo growth delay, was reversed and was not significantly different from control. To examine the effects of individual metabolic disturbances in a diabetic state on pre-embryo development, pre-embryos from non-diabetic mice were cultured in vitro in elevated concentrations of d-glucose, acetoacetate, lactate, amino acids or lipids. Compared to controls, pre-embryos cultured in elevated glucose levels



Dr. Robert H. Gifford, associate dean of medical education and student affairs, chats with Dr. and Mrs. Lee E. Farr. Dr. Farr '32, HS '33-'34, endowed the annual lecture that premiered at this year's Student Research Day.

(950mg/dl) exhibited markedly retarded overall growth rates ($p < 0.005$). No significant difference in overall growth rate or distribution of developmental stages was seen in elevated concentrations of lactate (5mM) or elevated concentrations of lipids (250 mg/dl). Pre-embryos cultured in both concentrations of amino acids (7mM) demonstrated an overall retardation in growth rate ($p = 0.001$).

Pre-embryos incubated in elevated concentrations of acetoacetate (10mM) demonstrated the most marked growth retardation. By 72 hours, only 8% of the total number of pre-embryos cultured in acetoacetate were at a 4-cell developmental stage or above versus 97% of total control pre-embryos.

In conclusion, diabetes mellitus has the potential to deleteriously affect oocyte maturation as well as pre-implantation embryo development, and that these diabetic manifestations are partially reversed by insulin administration and improvement in metabolic control. Culturing pre-embryos in vitro in elevated concentrations of glucose or ketones recreates the in vivo diabetic state.

MDCK Cells Synthesize Increased Basement Membrane Heparin Sulfate Proteoglycans Upon Polarization.

David S. Klimstra, 1988

Preconfluent and confluent (polarized) MDCK cell cultures grown on plastic were labeled (16 h) with $^{35}\text{SO}_4$ and proteoglycans were isolated from the cell layers and medium. In both preconfluent and confluent cultures, most of the proteoglycans (>60%) were found in the cell layer. With confluence the ratio of HSPG to CS-DSPG in the cell layer increased four fold

due to an 80% decrease in CS-DSPG production. The amount of total HSPGs produced per cell did not change. The HSPG/CS-DSPG ratio in the medium remained constant with polarization. When HSPGs from the cell layers were analyzed by hydrophobic chromatography, only a small fraction (<10%) bound to octyl-Sepharose columns (potentially membrane-intercalated HSPGs) at both stages of growth. In preconfluent cell layers, 35% of the total HSPGs could be precipitated with an antibody to basement membrane HSPG, and the amount increased to 65% after polarization. By immunoelectron microscopy, basement membrane HSPGs were seen concentrated along lateral cell surfaces with occasional basal staining in preconfluent cells, whereas after polarization large amounts were deposited in a loosely-organized matrix exclusively along the basal cell surfaces. No morphologically recognizable basement membrane was seen at either stage of growth. When confluent monolayers were grown on permeable filters, most of the proteoglycans were secreted into the medium (basal = 63%, apical = 29%). Most (82%) of the basement membrane HSPGs were found in the basal medium, while only 11% were in the apical medium.

The main conclusions that can be drawn from this work are: 1) confluent MDCK cell layers synthesize twice as much as basement membrane HSPG as preconfluent cell layers; 2) basement membrane HSPGs are localized exclusively basally only after polarization; and 3) MDCK cells grown on filters deliver basement member HSPGs predominantly to the basal cell surface for secretion into the basal medium.

Neuroscience Center Dedicated in May

On a beautiful spring day the School of Medicine, the Paralyzed Veterans of America (PVA) and the Eastern Paralyzed Veterans Association (EPVA) joined the Veterans Administration to celebrate the fruits of a remarkable collaboration.

May 14 marked the dedication of the PVA/EPVA Center for Neuroscience and Regeneration Research of Yale University. The single story, 4,500-square-foot facility on the grounds of the Veterans Administration Medical Center in West Haven will enable scientists to study how the nervous system, especially the spinal cord, adapts to injury. The researchers also will investigate such diseases as multiple sclerosis.

A remarkable example of civic, governmental and scientific cooperation, the Veterans Administration made the land available to Yale through a long-term leasing arrangement. The PVA provided \$1.5 million to help support the center's construction and research. And the School of Medicine brought together a renowned research team of physicians and scientists, headed by Stephen G. Waxman, M.D., Ph.D., professor and chairman of neurology. (See "Yale Neurology: Expanding Hope's Horizon.")

Observed Dean Leon E. Rosenberg: "With the combined forces of our various resources, I feel confident that we will continue to make steady progress which will benefit those with spinal cord dysfunction and disease. Dr. Waxman and his colleagues will strive for innovation and discovery; as important, they will see that their students go forth from Yale with the same depth of compassion and determination they clearly have."



Dr. Stephen G. Waxman (second from left) receive

FACULTY NEWS

Dr. Philip K. Bondy, associate dean for veterans administration medical center and professor of medicine, was among the speakers at Columbia College's May 14 reunion for the Class of 1938. He presented an update on osteoporosis. Dr. Bondy received a B.A. degree in biology from Columbia in 1938.

Marilyn G. Farquhar, Ph.D., Sterling Professor of Cell Biology and Pathology, delivered the 31st annual Maude Abbott Lecture on March 1 at the 77th annual meeting of the U.S. and Canadian Academy of Pathology. Professor Farquhar, the first woman chosen to deliver the lecture, discussed "A Cell Biologist's View of Glomerular Permeability and Pathology."

The kidney, and in particular the glomerulus, the kidney's filtering apparatus, has been one of Professor Farquhar's major research interests. She has also studied and characterized a variety of cell components and their functions. Her research on the enzymes known as peroxidases led to automated blood cell counting, and she was the first to make detailed studies of the fine structure of kidney biopsies.

During the 65th annual graduation ceremony on June 5, the University of New Haven awarded a doctor of humane letters to **Dr. John E. Fenn**, clinical professor of surgery at the School of Medicine and chief of staff at Yale-New Haven Hospital.

Dr. Fenn was recognized for his more than 30 years of research and patient care in the field of cardiovascular surgery. As a surgeon, teacher, administrator and mem-

ber of many advisory and decision-making committees at YNHH and the medical school, he has helped shape and foster the technological advances that have revolutionized in the practice of medicine and surgery. He also has been involved in such social concerns as problems of the aged, status of women and bioethics and has encouraged young people to enter the medical profession.

Dr. Myron Genel, professor of pediatrics and associate dean for government and community affairs, addressed the May 1988 reunion meeting of the Children's Hospital of Philadelphia Alumni Organization on "The Gender Verification Controversy: Athletic Sex in International Competition." Dr. Genel has been engaged in an international campaign to eliminate the use of sex chromatin for gender verification of female athletes in international athletic competition.

The Behavioral and Social Sciences Section of the Gerontological Society of America has awarded **Judith Rodin**, Ph.D., professor of psychology, psychiatry and medicine, and **Philip R. Allen**, Ph.D., professor of psychology, the 1987 Distinguished Creative Contribution to Gerontology Award for their paper "Aging and Health: Effects of the Sense of Control." The article, which was published in the September 1986 edition of *Science*, examined the linking mechanisms interrelating aging and health.

The American College of Physicians has presented its William C. Menninger Memorial Award to **Dr. Morton F. Reiser**, the Albert E. Kent Professor of Psychiatry, for "his distinguished contributions to our understanding of the interactions of the mind and body, and in recognition of his major achievements in the field of psychiatric education."

Dr. George E. Palade, Sterling Professor of Cell Biology, special adviser to the dean and senior research scientist in cell biology, was a Lee Kuan Yew Distinguished Visitor at the National University of Singapore (NUS) from Feb. 22 to Feb. 29.

He also visited the New Institute for Molecular Biology and the Science Park associated with NUS. One of the Science Park companies produces AIDS test kits for the American market.

Eight members of the Yale Comprehensive Cancer Center have received the New Haven Foundation's Argall L. and Ann G. Hull fund Cancer Research Awards. The awards, up to \$20,000 and granted for one year, are given to support innovative research in the fields of cancer cause, therapy and prevention. Recipients include: **Marianne Berwick**, Ph.D., associate research scientists in epidemiology and public health; **Neal C. Birnberg**,

Ph.D., assistant professor of pharmacology; **Dr. Robert Dubrow**, assistant professor of epidemiology and public health; **Maureen Gilmore-Herbert**, Ph.D., associate research scientists in internal medicine; **Dr. Ben Z. Katz**, assistant professor of pediatrics and epidemiology and public health; **D.Y. Anendra Kumar**, Ph.D., associate research scientists, human genetics; **Dr. Thomas F. Patterson**, post-doctoral fellow in medicine; and **Eliot M. Rosen**, M.D., Ph.D., assistant professor of therapeutic radiology.

Elaine E. Grant, P.A., director of the medical school's physician associate program, has been selected to receive a Twentieth Anniversary Appreciation Award from the American Academy of Physician Assistants. Twenty such awards were presented during a May 20 dinner at the Los Angeles Biltmore to P.A.s who have made a significant contribution to the profession.

Barry M. Kacinski, M.D., Ph.D., assistant professor of therapeutic radiology and a lecturer in molecular biophysics and biochemistry, has been awarded \$100,000 a year for five years by the Bristol-Myers Company. The company has committed \$16 million nationally in research grants to investigators studying how tumors develop resistance to anticancer drugs. Dr. Kacinski will apply the grant to research into the role of the *fms* oncogene in ovarian and endometrial cancer.

Dr. Norman J. Siegel, professor of pediatrics and medicine and vice chairman of the department of pediatrics, was installed as president of the American Society of Pediatric Nephrology during its annual meeting in Washington, D.C., May 2. His one-year term began June 1.

Dr. Vincent T. Marchesi, chairman of the department of pathology, was elected to the National Academy of Sciences. Dr. Marchesi, also the Anthony N. Brady Professor of Pathology, Cell Biology and Biology, is one of 61 new members elected during the academy's 125th annual meeting in Washington, D.C. He is the 15th medical faculty member selected for membership.



Dr. Vincent T. Marchesi



5 million check from PVA leaders.

Professor Ruddle Named To Sterling Chair

President Benno C. Schmidt Jr. has appointed Frank H. Ruddle, Ph.D., to an endowed professorship. Professor Ruddle, the Ross Granville Harrison Professor of Biology and Human Genetics, has been appointed Sterling Professor of Biology. Professor Ruddle's primary concern is mammalian genetics, cell biology and development. His laboratory maps gene locations, determines structural organization at the chromosome and molecular levels and examines patterns of gene expression and mechanisms of regulation.

Professor Ruddle, who specializes in exploring how hereditary traits are passed from one generation to another, also is the co-founder and director of the Human Gene Mapping Library, located in Science Park in New Haven. The library houses the largest gene data base in the country, containing information about more than 1,500 identified human genes.

Professor Ruddle's experiments established that fruit flies and mice share similar genetic patterns. Some of these patterns appear to be so basic that they have survived intact in different species through more than a billion years of evolution. His current research focuses on "controller genes," which appear to control how similar gene sequences are expressed differently in flies and mice.

The recipient of numerous honors, Professor Ruddle was recently awarded the 1988 Katherine Berkan Judd Award by the Memorial Sloan-Kettering Cancer Center.

John Thompson Feted At Retirement Gala

The Yale University Hospital Administration Alumni Association honored John D. Thompson, professor of public health (hospital administration) and nursing administration, at a retirement gala March 29 at the Museum of Fine Arts in Boston.

The Whiffenpoofs entertained during the reception and dinner, which was attended by Professor Thompson's family and more than 300 alumni and friends of the hospital administration program.

An alumnus representing each decade from the 1950s to the 1980s spoke during the program, which was entitled "JDT - His Life at Yale by Decades." In addition, representatives of the Class of 1988 presented him with a Memory Book containing approximately 75 commemorative letters from faculty, alumni and friends of the hospital administration program. President Ronald Reagan and Mrs. Reagan also sent a letter commending Professor Thompson on his accomplishments in the health-care field and wishing him well in his retirement. Highlighting the evening was the presentation of a retirement trip to Vienna, Austria, during the 1988 opera season.

Thirteen contributors, donating between \$400 and \$1,500 each, assisted in defraying the costs of the party, considered to be the largest gathering of graduates in the history of the department of public health.

Emeriti Professors Announced

Seven members of the Yale medical faculty retired July 1, and the Yale Corporation has named them emeriti professors.

Dr. Philip K. Bondy, professor of medicine, associate dean for veterans affairs and a member of the medical school faculty since 1952, was named professor emeritus of medicine and consultant to the medical school on veterans administration affairs. He will continue as chief of staff for the Veterans Administration Medical Center in West Haven.

Alfred S. Evans, M.D., M.P.H., the John Rodman Paul Professor of Epidemiology, is a leading infectious disease clinician. His main interests are Epstein-Barr virus, viruses and cancer, epidemiology and the law, and medieval history. An assistant professor of medicine from 1949 to 1951, Dr. Evans returned to Yale in 1966 as professor of epidemiology, chief of the section of international epidemiology and director of the World Health Organization Serum Reference Bank. In 1982, he was named the John Rodman Paul Professor of Epidemiology.

Dr. Evans also served as editor-in-chief of *The Yale Journal of Biology and Medicine* from 1972 to 1973 and from 1974 to 1976.

Paul Howard-Flanders, Ph.D., professor of therapeutic radiology (radiobiology) and molecular biophysics, joined the Yale faculty in 1959. Director of the radiobiology laboratory since 1963, his research interests involve enzyme purification for



Professor Emeritus John D. Thompson strikes a familiar pose.

BILL CARTER

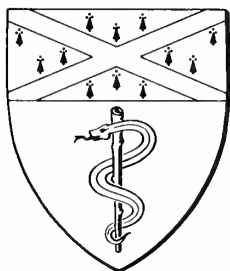
genetic recombination and repair; biochemical mechanisms of mutagenesis by carcinogenic agents and radiation; and enzymatic repair of DNA recombinants. Each year since 1963, Dr. Howard-Flanders has received a Research Career Award from the U.S. Public Health Service.

Chief of the Veterans Administration Medical Center laboratory service from 1974 to 1987, Dr. Leonard S. Kaplow, professor of pathology and laboratory medicine, has been a member of the Yale faculty for 24 years. A pioneer in the fields of hematologic cytochemistry and flow cytometry, he is best known for his methods for staining and evaluating leukocyte enzymes, which have become standard procedures throughout the world. He is a fellow of the American Society of Clinical Pathologists and a past president of the Histochemical Society.

George F. Mahl, Ph.D., who joined the Yale faculty in 1947, was named assistant professor of psychiatry and psychology in 1950, and was promoted to professor of psychiatry and psychology in 1964. His research interests include psychophysiology, psychoanalysis, the dynamics of personality, and nonverbal and speech behaviors. Several of Professor Mahl's publications have been translated and published in Japanese, German and Italian.

Sofia Simmonds, Ph.D., professor of molecular biophysics and biochemistry, has been a Yale faculty member since 1945. Her research has encompassed microbiology, genetics and biochemistry. She received the Garvan Medal in 1969, an award that recognizes outstanding women scientists. A fellow of Calhoun College, she served as associate dean of Yale College and dean of undergraduate studies during the spring semester.

John D. Thompson, M.S., professor of public health (hospital administration) and professor of nursing administration at the School of Nursing, is a leader in health care administration. His major research undertakings include the economics of maternity service, studies in hospital function and design, and the use of diagnosis-based clinical and financial information systems for reimbursement, management, planning and quality evaluation in hospitals. The Diagnosis-Related Group (DRG) concept was developed by Professor Thompson and Professor Robert B. Fetter of the Yale School of Organization and Management. Director of the program in hospital administration since 1961, Professor Thompson joined the Yale faculty in 1956.



Judith Rodin to Lead Minority Recruitment Study

Yale President Benno C. Schmidt Jr. has appointed Judith Rodin, Ph.D., the Phillip R. Allen Professor of Psychology and professor of medicine and psychiatry, to chair a faculty committee that will study the University's policies regarding recruitment and retention of minority-group faculty.

The 13-member committee, comprising faculty from throughout the University,

will recommend how to attract minority-group scholars to Yale. Dwight T. Janerich, D.D.S., M.P.H., another medical school faculty member, will join Professor Rodin on the panel. He is professor of epidemiology, associate director of control/prevention of the Cancer Control Research Center and director of the Cancer Control Research Unit.

Dr. Ment Presented Leah Lowenstein Award

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Dr. Laura Ment receives the Leah Lowenstein Award from Dean Leon E. Rosenberg.

The Office for Women in Medicine has presented the third annual Leah Lowenstein Award to Dr. Laura R. Ment, associate professor of pediatrics and neurology.

The award recognizes the medical school faculty member who most clearly provides positive images of women in promoting humane and egalitarian medical education. The recipient's teaching style and personal example provide a model for the principle of equal opportunity espoused by the late feminist physician, dean and medical educator Leah Lowenstein, according to Merle Waxman, director of the Office for Women in Medicine.

Leah Lowenstein Award recipients are selected from nominations that students submit. Wrote one student: "She is smart, competent and has a terrific sense of humor! She is great with patients. It has been wonderful to really be aware of her

presence during my pediatrics rotation. There are truly so few women role models for us....I am grateful for the presence of this very nice and intelligent woman who does clearly provide a positive image of women in medicine."

Dr. Ment joined the Yale medical faculty in 1979 as an assistant professor of pediatrics and neurology. She received B.A. and M.M.Sc. degrees in 1970 and 1972, respectively, from Brown University and an M.D. degree in 1973 from Tufts University. She completed residency training at Massachusetts General Hospital and also was a visiting fellow in pediatric neurology at Hammersmith Hospital in London.

Dr. Ment, a mother of three who has published more than 60 scientific articles, has focused her research on neonatal neurologic disorders, such as cerebral hemorrhages and stroke.

EPH Researcher Wins CDC Honor

Rebeca Rico-Hesse, Ph.D., assistant professor of epidemiology, has won the 1988 Charles C. Shepard Science Award, the Centers for Disease Control's preeminent science award.

Ms. Rico-Hesse's scientific publication, titled "Geographic Distribution of Wild Poliovirus Type I Genotypes" and published in the journal *Virology*, was judged the outstanding scientific paper from among 1,117 manuscripts published in peer-reviewed journals by CDC authors in 1987. The papers were evaluated on their scientific merit and the significance of the work's impact on the CDC's mission.

She conducted the research for this paper while she was a National Research Council postdoctoral fellow at the CDC in Atlanta.

The award-winning publication explains a laboratory method for determining the geographic origin of polio virus strains that cause epidemics. Basically, the method calls for studying the evolution or lineage of viruses by determining their genetic content. With this information, health professionals may eradicate epidemic viruses in countries where epidemics may occur.

Although public health efforts have virtually eliminated poliomyelitis in the United States, the viruses annually cause approximately 400,000 new cases of the paralytic disease in developing countries.

Ms. Rico-Hesse, who received a Ph.D. degree in 1985 in microbiology from Cornell University and joined the Yale faculty last fall, is concentrating her research on the evolution and epidemiology of mosquito-borne viruses occurring in the tropics.

Dr. Strauss Receives Van Amerigen Award

Dr. John S. Strauss, professor of psychiatry at the Yale School of Medicine, has been presented the van Amerigen Award in Psychiatric Rehabilitation by the American Psychiatric Association (APA).

The award is given annually to an individual, institution or organization that has made an outstanding contribution to the field of psychiatric rehabilitation and care for the chronically mentally ill. The award was established in memory of Mr. Arnold L. van Amerigen, who made many contributions to the psychiatric rehabilitation of the mentally ill.

Dr. Strauss has made outstanding contributions to the field through his research and involvement with psychiatric rehabilitation programs at international, national and local levels.

Nationally, he, along with Dr. Morton S. Friedman and Courtenay M. Harding,

Ph.D., assistant professor of psychiatry (psychology), organized a National Institute of Mental Health-sponsored conference on work as treatment for psychiatric disorders. Dr. Strauss also has served as a consultant to the APA on the joint project with the Social Security Administration to develop more effective assessments of psychiatric disability. He serves on the board of the Boston University Center for Rehabilitation Research and Training in Mental Health and as a consultant to the Veterans Administration for developing a national rehabilitation research agenda.

Locally, Dr. Strauss chaired the Consortium for Community Support Programs, an agency that provides coordinated management of rehabilitation, resocialization and supported living settings in the New Haven area.

He helped found the Consortium for Rehabilitation Services of Greater New Haven, an organization that brings together staff of many agencies providing psychiatric rehabilitation. And he leads an effort to organize a consumer support group for persons with mental illness.

In his research, Dr. Strauss has concentrated on various aspects of social functioning and how they relate to the course and outcome of severe mental disorders. His early work established the importance of work and social relationships in predicting and reflecting outcomes of disorder. He and his colleagues were the first to suggest that social relations, work and symptoms represented open-linked systems of functioning, central to the theory and treatment of severe psychiatric disorders. This work led Dr. Strauss to generate innovative methods for research in psychiatric rehabilitation.

E. Kirstin Dahl Named To Harris Professorship

The Yale Corporation has named E. Kirstin Dahl, Ph.D., assistant clinical professor in the Child Study Center, to be the first Harris Assistant Professor of Child Psychoanalysis. Her appointment was effective July 1.

The professorship, as well as several others, was established with funds from a \$5 million gift from Irving and Neison Harris, two Chicago area brothers and businessmen who graduated from Yale College.

Professor Dahl graduated from Antioch College in 1963. Her early work as a nursery school teacher lead her into her chosen field, and she earned an M.S. degree in child development in 1971 from the Bank Street College of Education. She completed a Ph.D. degree in 1978 at Yale, where she trained under Dr. Sally A. Provence, now professor emeritus in the Child Study Center (child development) and pediatrics and senior research scientist in the Child Study Center.

Since 1971 Professor Dahl has been associated with the Yale Child Study Center, first as a research associate and also as director of the early childhood educational and therapeutic programs from 1978 to 1983.

In her clinical work, Professor Dahl treats children who experience a variety of psychological problems, including depression, anxiety and phobias, including fear of thunderstorms or clowns.

A child psychoanalyst, Professor Dahl has centered her research on the meaning of children's play. The Harris professorship will allow her to continue research on the play of normal children, aged 4 to 6 years, during clinical interviews with psychoanalysts. As she and her colleagues learn about the ways in which normal children communicate their imaginative world through play, they will develop systematic methodologies to study the communication of emotionally disturbed children in clinical settings.

Two Win Javits Awards In the Neurosciences

Two School of Medicine faculty members have been selected to receive Javits Neuroscience Investigator Awards which provide grant support for up to seven years.

The recipients are Ilsa R. Schwartz, Ph.D., associate professor of surgery (otolaryngology) and neuroanatomy, and Carole C. LaMotte, Ph.D., associate professor of research in surgery (neurosurgery) and anesthesiology.

According to the National Advisory Neurological and Communicative Disorders and Stroke Council, these Yale researchers have demonstrated scientific excellence and exceptional productivity, are pursuing research of significant scientific importance and have proposed work of the highest scientific merit.

Professor Schwartz' research is aimed at identifying the structure, connections and chemical properties of neurons in the inner ear and lower brainstem which process information about sound. This basic research will help physicians understand how neurons in the auditory system contact one another, and the nature of chemical signals used to send information between them, going from ear to ear.

"Ultimately, if we understand how the system works in normal hearing adult animals, we may be able to identify what goes wrong in aging or genetically controlled diseases which effect hearing," she explains.

Professor LaMotte's research will concentrate on identifying and analyzing neural elements of spinal pain and temperature pathways in primates. She will compare the organization and functional physiology of the three major areas of the spinal grey in order to gain a better understanding of the areas.

ALUMNI NEWS

Dr. Byron C. Smith '34-'38 HS continues to practice ophthalmic plastic surgery in New York City.

Dr. Robert L. Gilbert '41 has retired to Naples, Fla., and serves as medical director/physician in residence at Bentley Village Life Care Community.

The University of Missouri-Columbia Medical Alumni Organization has named **Dr. Samuel P.W. Black '44-'50 HS** an honorary alumnus. The award was presented to Dr. Black for his commitment to the school and the alumni organization at the Missouri State Medical Association's annual meeting in April. Dr. Black, professor emeritus of surgery at the University of Missouri-Columbia School of Medicine, directs the Intracranial Aneurysm Study with the department of pathology and serves as a consulting neurosurgeon for several Missouri hospitals.

Dr. Karel B. Absolon '52, of Rockville, Md., an emeritus professor of surgery and former academic chairman at the University of Illinois College of

Medicine at Urbana-Champaign, has authored several books (see New Books) and is interested in reviewing scholarly works of Yale colleagues for publication.

Dr. Eva Henriksen MacLean '54 retired from her position with the Los Angeles County/University of Southern California Medical Center effective Oct. 31, 1987; she is now a full-time associate professor of anesthesiology at the University of Southern California School of Medicine.

Dr. William H. Hindle '56 has joined the department of obstetrics and gynecology of the University of Southern California School of Medicine as director of the Breast Diagnostic Center, Women's Hospital, Los Angeles County/University of Southern California Medical Center.

Dr. George Mizner '56-'58 HS practices psychiatry and psychoanalysis in Denver, Colo., and is associate clinical professor of psychiatry at the University of Colorado Health Sciences Center School of Medicine. A former past president of the Colorado Psychiatric Society, he serves as a representative to the American Psychiatric Association Assembly.

Dr. David W. Kingsbury '59 joined the Howard Hughes Medical Institute in July as a senior scientific officer. Dr. Kingsbury, a virologist who has worked extensively with paramyxoviruses, has been a member at St. Jude Children's Research Hospital and professor at the University of Tennessee, Memphis, College of Medicine since 1969.

Retired U.S. Air Force Col. **Richard C. Yeomans '67 M.P.H.** began a one-year chemical dependency counselor training program at the Hazelden Foundation in Center City, Minn., on March 1.

Dr. David H. Shapiro '67-'71 HS, of Clearwater, Fla., a governor of the American College of Surgeons and a recent appointee to the Florida Cancer Control and Research Advisory Board, testified for the National Cancer Advisory Board on the need for cooperation between the National Cancer Institute and community hospitals. He expressed concern that community hospitals designated as Cancer Treatment Centers by the American College of Surgeons were not included in patient referrals by NCI's Cancer Information Service telephone hotline.

BILL CARTER



Yale President Benno C. Schmidt Jr., Dr. Robert Petersdorf '52 and Dean Leon E. Rosenberg spoke at Alumni Weekend 1988. Full Alumni Weekend coverage will follow in the fall edition of YALE MEDICINE.

Dr. Marc Estes Lippman '68, senior investigator and head of the medical breast cancer section, medicine branch at the National Cancer Institute since 1976, has been named director of the Georgetown University Vincent T. Lombardi Cancer Center effective July 1. Dr. Lippman was among the first to work on estrogen and progesterone receptors as important predictors for the use of endocrine therapy for breast cancer. As director, he hopes to establish state-of-the-art research and treatment programs in breast, colon and prostate cancers.

Dr. Gerald R. Harpel '69 M.P.H., of Acadia, Calif., is chairman, department of obstetrics/gynecology, Methodist Hospital of Southern California and associate professor, clinical obstetrics/gynecology at the University of Southern California School of Medicine.

In February, **Dr. Paul Hessler III '70**, of Barrington, R.I., was appointed director of the combined departments of radiology of Woonsocket and Fogarty Hospitals in Rhode Island. He recently completed his second term as president of the Woonsocket District Medical Society.

Dr. Raymond L. Sphar '72 M.P.H. manages the U.S. Department of Defense biomedical research program for the Office of the Secretary of Defense. He previously commanded the Naval Medical Research Institute in Bethesda, Md.

Dr. Caroline Deegan '72, a Maryknoll missionary nun since 1983, recently completed three years as head of internal medicine in a government hospital in Ocotlán, Nicaragua, 20 miles south of the Honduran border. She was the only internist for 150,000 people and the only cardiologist for 500,000 people. Dr. Deegan expects to return to Nicaragua in 1989 and will probably teach in the medical school in Leon.

Dr. Harold R. Mancusi-Ungaro Jr. '73, formerly assistant professor of surgery and director, University Hospital Burn Unit at the University of Colorado Health Sciences Center, became associate professor, chief of the division of plastic surgery, and director of the Burn Center at the University of New Mexico on June 1.

Dr. Ronald Neumann '74, of Potomac, Md., was named chief of the nuclear medicine department at the National Institutes of Health on Feb. 1.

Dr. Kwaku Ohene-Frempong '75, of Iklins Park, Pa., has been assistant professor of pediatrics at the University of Pennsylvania and pediatric hematologist and director of the sickle cell program at the Children's Hospital of Philadelphia since 1980.

The American Association of Pathologists presented its 1988 Warner-Lambert/Parke Davis Award to **Dr. Jordan S. Pober '77**, associate professor of pathology at Harvard Medical School and Brigham and Women's Hospital in Boston. The award, given annually to an individual under age 40, recognizes meritorious research in experimental pathology.

Dr. Steven M. Shoum '78, of Massapequa, N.Y., serves as director of the department of anesthesiology at South Nassau Communities Hospital and president of district VIII of the New York State Society of Anesthesiologists.

After completing residency in orthopaedic surgery and a fellowship in sports medicine, **Dr. David S. Weiss '81** is in private practice specializing in sports and dance medicine in New York City. He also serves as attending surgeon at the Hospital for Joint Diseases Orthopaedic Institute.

Michael S. Huncharek '86 M.P.H., a first-year medical student at Boston University School of Medicine, was recently named a J.M. Scholar by the J.M. Foundation for training in alcohol and drug abuse.

Catherine McQuilkin, J.D., M.P.H. '86 joined the law firm of Sills, Cummins in Newark, N.J., as an associate in the products liability department on March 1. The firm recently filed the first fetal alcohol syndrome cases.

donated army barracks with no funding for permanent buildings. Today the department has 150 faculty members, and the medical school is a sprawling, modern medical complex.



Dr. Donald W. Seldin '43, '46 HS was awarded an honorary Doctor of Laws degree at the University commencement. Until his recent retirement, he served for 35 years as the chairman of the department of internal medicine at Southwestern Medical School.

NEW BOOKS

Changing Families, A Guide for Kids and Grown-ups, by Dr. David Fassler '82, Michele Lash, M.Ed., A.T.R. and Sally B. Ives, Ph.D. Waterfront Books (Burlington, Vt.) 1988.

Dance Medicine: A Comprehensive Guide, edited by Dr. Allan J. Ryan '36 and Robert E. Stephens, Ph.D. Pluribus Press (Chicago) 1987.

Divorce Workbook: A Guide For Kids and Families, by Sally Ives, Ph.D., Dr. David Fassler '82 and Michele Lash, M.Ed., A.T.R. Waterfront Books (Burlington, Vt.) 1988.

Doctors: The Biography of Medicine, by Dr. Sherwin B. Nuland '55, associate clinical professor of medicine. Alfred A. Knopf (New York) 1988.

From G. Prochaska to J.E. Purkinje, by Dr. K.B. Absolon '52. Kabel Publications (Rockville, Md.) 1987.

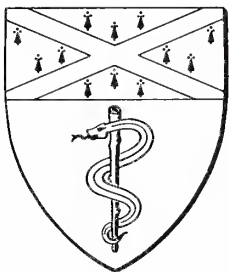
Physical Diagnosis, by Dr. Siegfried J. Kra, associate clinical professor of medicine. Norton (New York) 1987.

Dr. Seldin Awarded Honorary Degree

Dr. Donald W. Seldin '43, '46 HS, the William Buchanan Professor of Internal Medicine, University of Texas Southwestern Medical School, was awarded an honorary Doctor of Laws degree at the Yale University commencement on May 30. Yale President Benno C. Schmidt Jr. cited Dr. Seldin as a distinguished leader in American medicine and principal intellectual architect of a new medical school, whose blend of "academic rigor, poetic elegance and inspired teaching forged a generation of great medical scientists and scholars."

Dr. Seldin, who retired Feb. 1 after 35 years as chairman of the department of internal medicine at Southwestern Medical School, developed Southwestern's basic sciences and research faculty by persuading many of his brightest students to make their careers in academic medicine at Southwestern.

When Dr. Seldin became chairman of the department of internal medicine in 1951, it was a department of one—Dr. Seldin. The school was a series of aban-



OBITUARIES

Albert W. Snoke, M.D.

Dr. Albert W. Snoke, lecturer in public health and a consultant in health administration, died April 18 of a heart attack at his home in Hamden, Conn. He was 80.

Dr. Snoke had been professor of hospital administration and director of Grace-



Dr. Albert W. Snoke was director of Grace-New Haven Community Hospital in 1965 when it revised its affiliation agreement with the University and was renamed Yale-New Haven Hospital.

New Haven Community Hospital and Yale-New Haven Hospital from 1946 to 1968. Dr. Snoke was director of the hospital when in 1965 it revised its affiliation agreement with the University and changed its name to Yale-New Haven Hospital.

He served as coordinator of health services for the state of Illinois from 1968 to 1973.

A past president of the American Hospital Association and the Connecticut Hospital Association, he supported the creation of the Medicare system and the development of health maintenance organizations. In his book *Hospitals, Health and People*, published last year, he reproved hospitals for appearing to be preoccupied with the "bottom line," rather than with patient care, and offered administrators advice on many facets of hospital administration, including reimbursement and cost containment.

Dr. Snoke's wife, Dr. Parnie Hamilton Snoke, died in 1981. He is survived by two sons, Dr. A. Thomas Snoke and Dr. J. Arthur Snoke.

Russell V. Nahigian, M.D.

Dr. Russell Nahigian '39, died Jan. 6 of a ruptured aneurysm of the abdominal aorta at his home in Birmingham, Mich. An internist, Dr. Nahigian had practiced in the Detroit area until his retirement in 1987. He is survived by his wife, Mary; two sons, Lawrence and Kenneth; two daughters, Nancy Cipparone and Carol Jeffrey; one sister, Mrs. Nuvarite Gullan, and several grandchildren.

Jonathan T. Lanman, M.D.

Dr. Jonathan T. Lanman '43, of Bethesda, Md., died of a lung ailment Feb. 22 at his home. He was 70.

A former chairman of the department of pediatrics at the Downstate Medical Center in Brooklyn, N.Y., and a professor of pediatrics at New York University, Dr. Lanman directed the Center for Research for Mothers and Children at the National Institute of Child Health and Human Development, National Institutes of Health, from 1976 to 1978. Prior to his appointment with the NIH, he was associate director of the biomedical division of the Population Council.

Surviving are his wife, the former Janet Edgerton; a daughter, Jacqueline Sheehan; a son, Jonathan Jr.; a sister, Harriet L. Fulton, and two brothers, William and Henry.



Memorial Gifts

Deceased medical alumni and friends may be memorialized by a gift at any time to the Medical School Alumni Fund Endowment in the name and class of the person so honored. The next-of-kin of a deceased medical alumnus/a is advised about this In Memoriam Program by a mailing from New Haven some weeks after the School of Medicine receives notification of the death. The letter of information includes a copy of *The Testament of Remembrance* in which the names of all persons so memorialized are listed in the medical section by class, thus establishing a lasting memorial. Donors receive a personal penned note of appreciation from me. Your inquiries and interest are welcome at any time.

*Richard G. Jordan
Director, In Memoriam Program*

IN MEMORIAM

Thomas J. Walz January 3, 1988	'22 HS
Meyer Friedenson January 19, 1987	'27 M.D.
Mamie F. Hulsman November 1987	'28 M.P.H.
Harold J. Harris November 22, 1987	ex med '29
Moses D. Lischner March 8, 1988	'30 M.D.
Theodore P. Merrick February 15, 1987	'34 M.D.
Teresa F. Rhoads May 12, 1987	'34 HS
Edward R. Mountain March 12, 1988	'37 M.D.
Russell Nahigian January 6, 1988	'39 M.D.
William R. Oakes	'40 M.D.
John R. McDermott February 22, 1988	'41 M.D.
Jonathan T. Lanman July 13, 1987	'43 M.D.
Robert A. Sears January 20, 1988	'43 M.D.
Richard G. Britton January 20, 1988	'47 M.D.
Gilbert Lee Gordon May 1988	'50 HS
Jonathan Barry February 2, 1988	'53 M.D.
Gilbert M.P. Leiv April 28, 1987	'55 M.D.
Mark Snider September 8, 1987	'66 M.D.

ALUMNI REPORT

Since our last report, the alumni office has increased communication with medical students and the financial aid office concerning scholarship student needs. Ms. Pamela Nyiri presented detailed data to Yale Medical School Alumni Fund board members about changing regulations governing student assistance. Fund Chairman Dr. Leonard Kemler, Director Claire Lauterback and the board have thereby been oriented as to directions of further fund efforts.

Meetings with student volunteers have provided agents for all four classes, with eight self-appointed agents for the freshman class of 1991! We plan continued communication to emphasize our mission with this group, which represents the four classes. The objective of alumni efforts to aid the school and its future students will be identified early. We hope that support activities, such as alumni networking, will be addressed with increased benefit for ourselves as alumni as reward for participation in association affairs, initiatives never previously emphasized.

Another positive development this spring regarding student aid is the eligibility of graduate students for Yale Club scholarships. Previously these scholarships had been restricted to Yale College students. This achievement was the result of a major effort on the part of John W. Foster '72, of the Eastern Connecticut

Yale Club. The inherent message here is that as alumni/ae we should seek membership in our local Yale Clubs. The networking potential in our communities for such participation is again suggested. The issue of alumni networking underlines the need for updating the medical school alumni directory last published in 1984. It is hoped that this can be accomplished in 1989. The committee addressing the alumni status of former house staff at Yale-New Haven Hospital also has been active. Alumni Records has added more than 1,000 names not previously recorded, and further corrections in this list are planned this summer.

With the arrival of several new department chairmen in the past year, interest in soliciting fellow/house staff members for targeted projects is anticipated. Contributions for unrestricted funds from this source occur regularly, currently under the supervision of Dr. Samuel Kushlan '35, and will continue to be requested by the alumni fund. With the assistance of fund facilities and personnel, a small percentage of such needed unrestricted endowment may be assigned by the dean.

Our major office effort this winter was the planning and promotion of the reunion held on June 10 and 11. Of special interest was the address by Dr. Robert Petersdorf '52, president of the Association of American Medical Colleges, who discussed the

decreasing pool of applicants to medical schools nationally; curriculum reform; the changing environment of medical education; and a summary of current threats and challenges to medicine. President Dwight Miller represents our association on the curriculum review committee.

On June 11, seminars were held updating alumni about developments in the neurosciences; explaining advances in genetic mapping and diagnosis; and outlining the Yale experience with AIDS. In addition, a seminar moderated by Dr. William Kissick '57, entitled "Managing the Medical Industrial Complex," featured several noted panelists. They anticipated changes in systems of health care delivery and the need to provide specialized professional management by physicians (Dr. Helen L. Smits, '67); by nurses (Professor John D. Thompson, department of epidemiology and public health) and by the health care manager (David R. Baily M.P.H. '67).

Dr. Robert H. Gifford, associate dean for education and student affairs, continues to interview applicants who are children of alumni/ae, with 11 interviews personally held by Dr. Gifford to date this year. Three such applicants were accepted in 1986-87. Because the applicant pool to Yale remains superior in quality, disappointments were inevitable despite the fact that alumni children with equivalent records are given preference. The grade point average (on a scale of 4.0) was 3.72 in the present freshman group. A profile of the freshman student may be obtained in the Facts booklet obtainable on request at the alumni office.

News for our medical school column in the Yale Alumni Magazine has been erratic in arriving. Please use the tear-out card in YALE MEDICINE, or write to us directly. The University publication is printed nine times annually, but the column appears only when we have enough news.

We are grateful for the assistance of our alumni in (a) interviewing students for the school when travel to New Haven was not possible; (b) providing bed-board assistance to Yale seniors seeking residency; and (c) serving as consultants to senior students seeking critiques of residency programs. Our communications are improving. Please let the alumni office know how it can be more helpful to you.

Dr. Nicholas P.R. Spiuelli '44
Director of Alumni Affairs



Baily M.P.H. '67 and Dr. Helen L. Smits '67 join Professor Emeritus John D. Thompson on an Alumni Weekend panel entitled "Managing the Medical Industrial Complex." Moderator Dr. William Kissick '57 is not pictured.

If You Did Not Receive the Spring Edition...

We have received a number of inquiries from readers in the New Haven area about their not receiving the spring edition of YALE MEDICINE, which was mailed in early May. After following this up with our mailing contractor and the U.S. Postal Service, we have determined that some copies of the spring issue got lost in the mail. This is a matter of serious concern to us, because the spring edition featured an article on the medical student financial aid crisis and other important information.

We would be happy to mail the spring YALE MEDICINE to anyone on our distribution list who did not receive a copy. To have this issue mailed to you, simply return one of the postcards included with this edition, state your request and include your name and address.

We apologize for any inconvenience this may have caused our readers.

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